

***Tulare Unit
Strategic Fire Plan***



Last update: 1 April 2016

UNIT STRATEGIC FIRE PLAN AMENDMENTS

[illegible]

Table of Contents

Table of Contents.....	ii
SIGNATURE PAGE	1
EXECUTIVE SUMMARY	2
SECTION I: UNIT OVERVIEW	4
UNIT DESCRIPTION.....	4
UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES	6
SECTION II: COLLABORATION.....	8
COMMUNITY / AGENCIES / FIRE SAFE COUNCILS.....	8
A: VALUES.....	9
B: COMMUNITIES	11
SECTION IV: PRE-FIRE MANAGEMENT STRATEGIES	12
A: FIRE PREVENTION.....	12
ENGINEERING & STRUCTURE IGNITABILITY	13
INFORMATION AND EDUCATION	15
B. VEGETATION MANAGEMENT	18
SECTION V: PRE- FIRE MANAGEMENT TACTICS.....	19
DIVISION / BATTALION / PROGRAM PLANS	19
APPENDIX A: PRE- FIRE PROJECTS.....	51
APPENDIX B: UNIT GOALS AND OBJECTIVES.....	52
APPENDICES C-Z.....	53
EXHIBITS: MAPS	58
SUPPLEMENT: 2012	63


SIGNATURE PAGE:

SIGNATURE PAGE

Unit Strategic Fire Plan developed for Tulare Unit:

This Plan:

- Was collaboratively developed. Interested parties, Federal, State, City, and County agencies within the Unit have been consulted and are listed in the plan.
- Identifies and prioritizes pre fire and post fire management strategies and tactics meant to reduce the loss of values at risk within the Unit.
- Is intended for use as a planning and assessment tool only. It is the responsibility of those implementing the projects to ensure that all environmental compliance and permitting processes are met as necessary.



Unit Chief

Marc Hafner



Date



Pre-Fire Engineer

Jeffrey A. Paul



Date

EXECUTIVE SUMMARY

The Tulare Unit (TUU) is one of 21 administrative Units within CAL FIRE. The Tulare Unit Strategic Fire Plan is a product of the implementation of the California State Fire Plan. The TUU Strategic Fire Plan was completed by a collaborative effort between the Unit Chief, Battalion Chiefs, Program Managers, Bureau Managers and various stakeholders in the Unit. This process provided TUU background information on fuels and fire data, current and proposed projects, and individual Battalion activities commonly carried out each year. The TUU Strategic Fire Plan is our local road map to create and maintain defensible landscapes in order to protect vital assets. The Fire Plan seeks to reduce firefighting cost and property loss, increase public and firefighter safety, minimize wildfire risk to communities and contribute to ecosystem health.

This Unit Strategic Fire Plan emphasizes State Responsibility Land within CAL FIRE jurisdiction. The Fire Plan will be a tool to assist the Unit with pre-suppression projects which exist within each Battalion. TUU plans, identifies and evaluates priority landscape, fire hazards, and wildfire risk. Additionally it identifies opportunities for reducing structural ignitability, and identifies potential fuel reduction projects and techniques for minimizing those risks.

The TUU Strategic Fire Plan is our dynamic planning tool, and intended to be a living document. While we plan for and develop new projects, our primary focus will be to obtain funding for the maintenance of the existing projects and pre-suppression infrastructure that is in place. This document will be updated each year on the successes that have been accomplished and new goals and objectives as outlined by the Unit and the California Strategic Fire Plan.

The Tulare Unit Key Goals and Objectives from the California Strategic Fire Plan:

- Support the implementation and maintenance of defensible space inspections around structures.
- Analyze trends in fire cause and focus prevention and education efforts to modify behaviors and effect change to reduce ignitions within Tulare County.
- Continually evaluate the success in achieving the 95% threshold of keeping fires less than 10 acres in size.
- Identify and evaluate wildland fire hazards and recognize assets at risk, collecting and analyzing data to determine fuel reduction project, and other projects.

- Support the availability and utilization of CAL FIRE resources, as well as public and private sector resources for fuels management activities, including ongoing maintenance.
- Assist landowners and local government in the evaluation of the need to retain and utilize features (e.g. roads, fire lines, water sources) developed during fire suppression efforts, taking into consideration those identified in previous planning efforts.

SECTION I: UNIT OVERVIEW

UNIT DESCRIPTION

Tulare Unit is located in Central California and makes up part of the San Joaquin Valley. It consists of 603,496 acres of State responsibility land, 910,740 acres of Local responsibility land, and 1,584,183 of Federal responsibility land, a combined total of 3,098,419 acres. CAL FIRE Tulare Unit is bordered on the east by Sequoia and Kings Canyon National Parks, and the Sequoia National Forest. The counties of Kern, Kings and Fresno border to the South, West, and North respectively. The elevation of Tulare Unit land receiving direct protection by CAL FIRE ranges from 200 feet along the county's western boundary to a highest point of 9,252 feet on Moses Mountain to the East. This wide range of elevation supports many areas of vegetation consisting of grass, oak woodland, brush, and timber including old growth redwood. For the Tulare County Fuel Models see Appendix C.

Average annual temperatures range from 50 to 75 degrees; however it is not uncommon to have temperatures in the low 20s during the winter months and highs exceeding 100 degrees for extended periods during the summer months. The rainy season is October through April; the average annual rainfall is 11.03 inches. However, in the last three years we have experienced extreme drought conditions. Summers can be hot as stated earlier with extremely warm temperatures and dry relative humidity lasting for weeks. During the North American Monsoonal season thunderstorms are not uncommon over the higher elevations with some extending out over the Sierra Foothills and valley floor. Some years a monsoonal push will work from the southwest heading northeast causing thunderstorms with associated lightning and scattered precipitation on the valley floor and foothill region.

The United States Census Bureau in 2013 estimates Tulare County's population at 458,198. The majority of the population in the state responsibility area is located along two East-West highways. Highway 198 which leads to the Sequoia / Kings Canyon National Parks and Highway 190 which accesses a significant portion of the Sequoia National Forest / Giant Sequoia National Monument. Tulare Unit continues to experience a population growth rate of approximately 1 percent annually. Along with the population increase, wildland urban intermix has significantly increased where structures are being built throughout wildland areas. Providing adequate fire protection to those structures has become a major undertaking. However, the Tulare Unit has a low frequency of large damaging fires. CAL FIRE strives to extinguish 95% of all wildland fires at 10 acres or less. For the top ten largest fires over the past 50 years see Appendix D.

SECTION I: UNIT OVERVIEW

UNIT DESCRIPTION CONTINUED

The Tulare Unit is experiencing Tree Mortality at a moderate rate in the higher elevations of Tulare County. Extensive aerial mapping has been completed and the communities that are being impacted by Tree Mortality have been identified in this plan and project work has begun. As the rate of mortality increases additional projects will be identified to address the increase in hazard. Refer to Appendix A – Pre-Fire Projects and Division/Battalion/Program Plans for further information.

Tulare Unit's Fire Management Plan is our mechanism to catalog potential hazard areas and develop prescriptions to begin mitigating them based upon assessed priorities.

UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES

TUU Facilities:

TUU Headquarters is located just off Highway 198 in Visalia. At peak fire season, the unit staffs 8 fire stations, an air attack base including one fixed wing air attack and two air tankers, an inmate conservation camp with 5 year-round hand crews, emergency command center, fire prevention bureau, training bureau, 2 bulldozer / transport combinations and 3 Registered Professional Foresters.

The following is a list of TUU's facilities, equipment, and overhead personnel by battalion.

Badger Battalion

Badger Station	1 – Type III Engine
Woodlake Station	1 – Battalion Chief 1 – Type III Engine 1 – Bulldozer / Transport

Kaweah Battalion

Visalia Station	1 – Type III Engine
Three Rivers Station	1 – Battalion Chief 2 – Type III Engines

Tule Battalion

Porterville Station	1 – Battalion Chief 1 – Type III Engine 1 – Bulldozer / Transport
Bear Creek Station	2 – Type III Engines

Fountain Battalion

Fountain Springs Station	1 – Battalion Chief 2 – Type III Engines
Tyler Creek Station	1 – Type III Engine

UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES Cont.

Emergency Command Center

Visalia Headquarters

1 – Battalion Chief
4 – Fire Captains
3 – Comm Operators

Tulare Unit has MUTUAL AID AGREEMENTS with the following Departments:

- Tulare County Fire Department (TCFD)
- United States Forest Service (SQF)
- National Park Service (Sequoia & Kings)
- Kern County Fire Department (KRN)
- Tule Indian Reservation (TIA)
- Visalia City Fire Department (VFD)

SECTION II: COLLABORATION

COMMUNITY / AGENCIES / FIRE SAFE COUNCILS

Representatives involved in the development of the Unit Strategic Fire Plan are included in the following table. Their organization and title are indicated below:

Plan Development Team:

Organization	Title
CAL FIRE Tulare Unit	Unit Chief
The Sequoia Fire Safe Council	Council President
Unites States Forest Service	FMO / District Manager
Tulare County Resource Conservation District	President
National Parks Service	District Manager

SECTION III: VALUES

A: VALUES

The Unit description contained in this Fire Management Plan provides the background for identifying TUU's Assets at Risk. Additionally CAL FIRE's Fire and Resource Assessment Program (FRAP) prepared the document entitled California's Forest and Rangelands: 2010 Assessment. This assessment identifies the Unit Priority Landscapes. Priority Landscapes are intended to focus investments and other programs to address issues such as Fire Threat to Ecosystem Health, Rangeland Fire Threat, and Post Fire Erosion Threat to Community Water. Each of the programs in TUU is geared to protect or enhance the assets. The following list provides a summary of TUU's Assets at Risk:

Life and Safety

The loss of life and disregard for safety is the ultimate price paid. One ounce of prevention is little compared to any injury or a loss of life. This is based on population density and makeup of the communities. The fire size, location, and rate of spread could prove detrimental.

Air Quality

The potential is damage to heath, vegetation, and visibility. This is ranked on vegetation type and the air movement.

Range Productivity

Agriculture is a big industry in the Unit. Cattle ranches and rangeland encompass hundreds of thousands of acres in the Unit. The dollar cost to replace feed per acre will vary depending on the regions, owners, and feed.

Structures

The effect of fire would depend on the housing density and the exposure (potential for structure loss in a large fire event). The cost would not only be to the average dollar lost per home but the non-commodity assets as well.

Timber

The average loss per acre burned would depend on the region and owner. The effect of a wild land fire would affect local, state, national levels.

Water and watersheds

The range of economic impacts per acre value is dependent on the location and potential fire. A fire would increase water yields but could cause significant damage to the ecosystem and water ways. The cost alone of sediment removal would have a significant major impact. Vegetation Management Plans are the key to water shed

management. VMP's planned and coordinated are the best way to avoid major damage to our water shed.

B: COMMUNITIES

The communities that are at risk and are recognized on both the State and National levels are:

Badger	Camp Nelson	Exeter
East Porterville	Kennedy Meadows	Lindsay
Poso Park	Pine Flat	R Ranch
Tule River	Wilsonia	Tule River Indian Reservation
Springville	Three Rivers	

The communities that are not recognized at the state and national levels are:

Balance Rock	Blue Ridge	Elderwood
Campbell Creek	Fountain Springs	Hartland Camp
Hammond	Jack Ranch	California Hot Springs
Kaweah	Lemon Cove	Mehrten Creek
Posey	Sugar Loaf Village	Sierra Glen
Woodlake		

<http://osfm.fire.ca.gov/fireplan/fireplanning.php>

<http://www.preventwildfireca.org/California-Fire-Alliance/>

SECTION IV: PRE-FIRE MANAGEMENT STRATEGIES

A: FIRE PREVENTION

The Tulare Unit fire prevention program accomplishes fire management goals using four primary resources. These resources are law enforcement, pre-fire engineering, education and volunteerism. The law enforcement resources handle fire investigation and cause determination, as well as enforcing California's Forestry and Fire Laws throughout the Unit and/or State. Pre-Fire Engineering takes place with property owners, stakeholders, fire safe councils, resource conservancy and through local jurisdictions that assist in planning fire safe projects. Education and outreach is accomplished by the Units Fire Prevention Specialist. Activities include, annual 1st grade school visits, fire prevention floats in local community parades and staffing the Tulare County Faire booth. Volunteerism is supported through Volunteer in Prevention (VIP) program, which uses local volunteers to assist with public information, represent CAL FIRE at public events, and correspond with the public with CAL FIRE's mission in mind. Each program area's goal is to allow the prevention program to be successful and functional Unit wide. In 2015 arson was our leading cause of wildland fires in the Tulare Unit. The 2014 ignitions report as well as the five year ignition summary can be found in Appendix E.

Civil Cost Recovery

CAL FIRE's Civil Cost Recovery program recovers fire suppression costs when a fire investigation reveals that the responsible party caused the fire negligently or in violation of law. This benefits the State in two ways: it assigns fire suppression costs to culpable parties rather than the taxpayers at large and it serves as a deterrent to carelessness that can result in destructive fires. All fires meeting the above criteria are forwarded to Southern Region Office for review and civil cost collection.

ENGINEERING & STRUCTURE IGNITABILITY

The Prevention Bureau, through its Fire Captain / Pre Fire Engineer position supports and collaborates with a wide variety of agencies and community members in the planning, organizing, and documentation of fuel reduction projects throughout the Unit. Starting in 2010 the Pre Fire Engineer began the process of implementing the State Board of Forestry and Fire Protection's new 2010 Strategic Fire Plan for California. Under that document this Unit Fire Plan attempts to record all efforts within the Unit to mitigate the threat posed by wildland fire. The primary focus is on projects designed to create fuel breaks adjacent to threatened communities and help private landowners and organizations reduce the threat within their property boundaries.

In Tulare Unit, the wildland urban interface (WUI) continues to grow. TUU contains a variety of land uses and types, from agriculture to forest. Commercial and residential structures are present throughout all of these land use types. The communities within the confines of the Tulare Unit have always been confronted by the threat posed by uncontrolled wildland fire. The structures within the Unit reflect well over 100 years of acceptable building materials and techniques. State law establishes certain requirements for building in the WUI that effect structure placement and decrease structure ignitability. Construction types, ignitability of materials and proper engineering are all critical when wildland fires encounter structures.

It is a fact recognized by all fire control personnel that any ignition can quickly result in a fire that immediately threatens structures. Whether it's 1, 100 or 1,000 acres, structures can be threatened. In the case of small rapidly growing fires, ignition can be from direct flame impingement and/or radiant heat. In the case of very large landscape scale fires, a means of ignition could be airborne embers. Recognition of this fact by property owners should encourage them to take personal responsibility for improving the safety of their structures by following the steps required and/or recommended to reduce the threat of structure ignition.

Tulare Unit also enforces the LE-100 program (Fire Hazard Inspections). All structures in the State Responsibility Area are inspected. Home owners who do not comply with the Public Resource Code (PRC) 4291 are cited. The idea behind the program is not to issue a citation, but prevent the loss of structures when fire is moving through a community by receiving compliance. There were over 5000 structures inspected with 23 citations issued in 2015.

ENGINEERING & STRUCTURE IGNITABILITY CONT...

The California Building Commission (CBC) adopted the Wildland-Urban Interface codes (Chapter 7A) in late 2005. The majority of the new requirements took effect in 2008. These new codes include provisions for ignition resistant construction standards applicable to the WUI, which emphasizes protecting against airborne embers. During this same time period, CAL FIRE initiated a statewide project to update the Fire Hazard Severity Zone (FHSZ) designations within the WUI. Starting with the State Responsibility Areas in 2005 and concluding with Local Responsibility Areas adjacent to or within the SRA in 2008. Fire Hazard Severity Zones were field validated, updated as required and adopted by local government (County and City governing and regulatory entities), before official CAL FIRE maps were produced and released to local government. For Fire Hazard Severity Zones see Appendix F.

The requirements in Chapter 7A of the CBC and the associated FHSZ's have been enacted and are being enforced by local government building officials as new development plans work their way through the approval process. The updated zones will also be used by property owners to comply with Natural Hazards Disclosure requirements at the time of a property sale. Local government is encouraged to integrate the updated FHSZ's into the Safety Element of their General Plans. Property owners, developers, contractors, building materials businesses, and product designers can find specifics and answers to questions regarding California Building Code Chapter 7A, Fire Code Chapter 47, PRC 4290 and 4291, and Title 14, 19, 24 and other related information at the following CAL FIRE Office of the State Fire Marshal website:

http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_codes.php

INFORMATION AND EDUCATION

Information & Education is an integral part of the Fire Prevention Program. The focus is to reach out to the elementary school children with match & lighter safety education. In addition to the school programs, it is imperative to educate the public on the importance of Defensible space clearance, the proper method to burn hazard reduction materials, and the correct times to use power equipment.

The fire safety program that teaches children not to play with matches, lighters, or fire is the “Team Teaching” program. Team Teaching targets Preschool through second grade. Team Teaching is a highly professional program developed by teachers, CAL FIRE personnel, USFS personnel and child psychologists. This program utilizes Smokey Bear, an internationally recognized fire prevention symbol, to teach children not to play with matches, lighters, or fire. Pre-planning is the most important factor for a successful team teaching program. This year Tulare Unit participated in 19 first grade programs.

The first step in planning a fire prevention program is to identify what the Unit’s priorities are. Review the Unit Fire Plan to determine what fire causes occur in the target areas. For example, children match caused fires may have dropped in occurrence due to heavy saturation of schools with “Team Teaching” and other school education programs over the years, while “equipment use” or “debris burning” caused fires have increased. This would indicate a change in priorities. The Unit could then choose to develop an annual maintenance program for “Team Teaching” and redirect emphasis on “equipment use” and “debris burning” programs or assign additional personnel to assist with the implementation of programs to meet those needs in targeted areas.

The Tulare County Fair and the Scicon BBQ continue to be an effective method of conveying the fire prevention messages to the public. TUU personnel educate the public and allow children to cut a log and brand Smokey the Bear into the piece they cut. Based on ignitions in the Unit our prevention message can change year to year.

Defensible Space

The department has instituted an easy-to-use defensible space inspection form known as the LE-100. It contains detailed explanations of violations and how to correct them. Used by agency inspectors alike, it's checkbox format acts as a detailed guide for inspectors and a prompt for veteran inspectors while minimizing the amount of writing required, speeding up and standardizing inspections. During inspections we encourage discussions with property owners about property issues.

Property owners living in State Responsibility Areas (SRA) are required by Public Resource Code (PRC) 4291 to maintain clearance of flammable vegetation around their property. A property owner's responsibility is to clear 100 feet from his or her structure(s) or to the property line, whichever is closer, and is limited to their lands. However, coordination with adjacent landowners to achieve maximum defensible space is encouraged. Short of expensive remodel and retrofit projects for existing structures, compliance with existing PRC 4291 requirements is the single most effective means by which property owners can reduce the likelihood of fire damage. PRC 4291 clearance requirements: a 30' wide Defensible Space zone immediately adjacent to the structure, plus an additional 70' Reduced Fuel zone, for a total of 100 feet of clearance around all structures. The Prevention Bureau and each Battalion in the Unit is actively engaged in PRC 4291 education and compliance efforts, including: on-sight inspections, self-inspection forms, face to face education at the fire stations, participation in community events, close cooperation with Home/Property Owner Associations, and collaborative efforts with the local Fire Safe Councils, Local and Federal Government Fire Agencies and land management agencies.

http://www.fire.ca.gov/communications/downloads/fact_sheets/DefensibleSpaceFlyer.pdf

Volunteer in Prevention Program

The VIP Program utilizes citizens and public service groups to volunteer time in non-salaried positions to reduce man-caused fires. Each year our VIP's play a vital role, they assist with staffing public events and emergency mitigation efforts. Each year VIP's assist by participating in fairs, displays, school programs and parades.

Fire Prevention Roadside Sign Program

Battalion staff will continue promoting the fire prevention message based on our current ignition problems via the 4'x8' roadside signs. Funding is being sought for additional signs within the unit. The signs are placed in high traffic areas in every battalion. There are 6 in the Badger Battalion, 5 in the Kaweah Battalion, 5 in the Tule Battalion, and 3 in the Fountain Springs Battalion. These are primary entry points for commuters, part-time residents and visitors to Tulare County. These highways and roads experience a very large volume of traffic, making it an excellent point from which to publicize our fire prevention messages. This is an annual program in which signs are posted throughout the fire season.



Fire Prevention sign in the Tule Battalion

B. VEGETATION MANAGEMENT

Natural Resource Management is supporting the TUU Fire Plan through Forest Practice activities as well as Vegetation Management Programs and other fuel reducing grants. Through the Forest Practice Program we are encouraging healthy forest throughout the Unit. Landowners as well as local Registered Professional Foresters are currently reducing overcrowded timber stands. This is being implemented by Timber Harvest Plans (THPs). Reducing the amount of high fire vegetation and providing an opportunity to fight fire safely and aggressively is the primary goal. These programs also help increase the water table by reducing the amount of evapotranspiration in the watershed. Reducing the amount of hazardous brush will also help in the foraging of not only livestock, but wildlife as well. By doing these projects it helps bring the natural mosaic back to the landscape.

Several attempts to conduct prescribed burns were initiated on the Mountain Home Demonstration State Forest (MHDSF). However, fuel moisture conditions were too high to facilitate effect burning. Therefore, no prescribed fire acres were completed at MHDSF this year. Approximately 800 roadside piles were burned in the areas of Shake Camp, Gelena Creek, Coppermine Road, headquarters, and Powerline Road. There were several Fuel Treatments conducted within the Unit. A fuel reduction project was also completed in the Ponderosa area under the Prop 40 grant. This project was completed through the Fire Safe Council. Approximately 100 acres was treated by hand. Prop 40 also funded a CEQA Management Plan in the Sequoia Crest Area. This plan was completed; however it has not been implemented or funded.

Tulare Unit did not conduct any VMP's this year; however preliminary ground work has begun for a new VMP within the Kaweah and Tule Battalions (Manikin) (Blue Ridge).

http://www.fire.ca.gov/resource_mgt/resource_mgt_vegetation.php.

SECTION V: PRE- FIRE MANAGEMENT TACTICS

DIVISION / BATTALION / PROGRAM PLANS

BADGER BATTALION - 4111

Fuels:

The fuels within the Badger Battalion are typical of those found in the foothill and mountain regions of the Southern Sierra Mountain Range. Vegetation types range from annual grasses, near the valley floor, to mixed conifer forest at the higher elevations. Below 500' elevation annual grasses, including wild oats, are the pre-dominate fuel type. Fuel loading in this area change from year to year based on the amount of precipitation received. Between 500'-3500', the fuel type becomes more oak woodland with an inter-mix of brush. The brush is made up of several varieties including: manzanita, chemise, ceanothus, scrub oak, live oak, and poison oak. The brush becomes denser with the rise in elevation and on the North and East aspects. Above 3500' elevation, fuels transition to a Conifer fuel type. At 4500' elevation and above, the fuel is dominated by conifer species such as incense cedar, ponderosa pine, sugar pine, white fir, live oak and black oak with a mixed brush understory.

Four consecutive years of drought have had a profound effect on the conifer component in the vegetative regime. Of particular concern is the high occurrence of mortality in both of the pine species and incense cedar. Ocular estimates in December 2015, show some areas that exhibit mortality rates exceeding 95 percent of the standing trees. Mortality is occurring in all size and age classes which is manifest in the form of extensive areas of ladder fuels which extend from the forest floor into the dominant canopy layer.

Topography:

There are a wide range of topographical features that vary in elevation from 400' to near 5000'. The lower elevations are comprised of rolling foothills, while the upper elevations contain mountainous terrain with steep drainages, rugged canyons, and a few gentle valleys. Dry Creek and Cottonwood Creek are the major drainages in the area.

Weather:

Being a Mediterranean Climate, the typical summer weather pattern consists of 90 – 105 degrees with humidity's in the upper teens to low 20's during the day. At night, the temperature is in the upper 50's to near 70 degrees with humidity's in the high 30's to low 50's. Winds are generally light with upslope, up canyon during the day and downslope, down canyon at night.

Fire History:

The Badger Battalion averages approximately 5-10 fire starts annually. The majority of those fires started are due to vehicle and equipment use in the lower grasslands.

Although rare, starts in the upper elevations within the battalion do pose a significant potential for a large extended attack fire. Large extended attack fires have occurred in the battalion over the years with several fires in the 500 – 1000 acre range. There is no known history of major fires.

2015 Badger Battalion Accomplishments

The Badger Battalion was right on target accomplishing and maintaining a number of 2014 projects. A major concern is for the maintenance of Fire Control Roads. Cal-Fire personnel, equipment and fire crews are utilized in all aspects for the maintenance and repair of these vital roads. Cal-Fire bulldozers and road graders repair damaged roads and maintain a drivable surface.



The Heartland Christian Camp and Badger Fuel break have both been completed. These projects totaled approximately 8 miles of roadside clearance/thinning and approximately 10 acres of pile burning. The project was funded by grants obtained by the FSC and completed utilizing Cal-Fire Crews and private hire mastication.

Battalion personnel continue to be proactive with residential clearance inspections (PRC 4291) which requires the 100 foot clearance around all structures within the SRA. We have placed Fire Prevention Signs throughout the battalion in high traffic areas reminding the public to prepare for fire season by clearing flammable vegetation from their property.



Battalion Priority:

Updating and maintaining our fire road system is a top priority in the Badger Battalion. By ensuring these road systems are well maintained, it allows us to access areas within the battalion that would otherwise be difficult to access. There are 2 fuels reduction projects that have been identified. The first is a fuel break along the ridge top west of Hartland Christian Camp. This project would be done in coordination with USFS and Hartland Christian Camp. The second project is a fuel break between Miramonte Fire Control Road and Mountain House. This would provide a fuel break along the ridge west of the Community of Badger.

Pre-Attack Plans:

Develop updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, and probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models.

Priority #1

Project Name: Fire Control Road maintenance

Description: Maintain the fire control roads in the battalion for fire suppression and quick access to fires.

Community: Badger, Sierra Glen, Eshom Valley, Heartland Christen Camp, Sand Creek, Miramonte,

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council.

Priority #2

Project Name: Badger Chipping Day

Description: Provide a chipping day at Badger FFS for residents of the Badger/Eshom Valley area to be able to dispose of their LE-100 material.

Community: Badger and Eshom Valley

Project Collaborators: CAL FIRE, Fire Safe Council

Priority #3

Project Name: Heartland Camp

Description: Fuel modification with hand crews

Community: Badger, Sierra Glen, Eshom Valley, Heartland Christen Camp.

Project Collaborators: CAL FIRE, Heartland Christian Camp, USFS, Fire Safe Council.

Battalion Priority Cont:

Priority #4

Project Name: Badger Fuel Break

Description: Fuel break on the ridge West of Badger

Community: Badger, Eshom Valley, Sierra Glen

Project Collaborators: CAL FIRE, Badger Ranch and land owners, Fire Safe Council.

Priority #5

Project Name: Battalion Fire Prevention Signs

Description: Public education, Fire Prevention Messages displayed on road side signs.

Community: Elderwood, Cutler, Orosi, Badger, Eshom Valley

Project Collaborators: CAL FIRE and the Sequoia Fire Safe Council.

KAWEAH BATTALION – 4112

Fuels:

The fuels within the Kaweah Battalion are typical of those found in the Central California San Joaquin Valley and Sierra Nevada. This area is influenced by a Mediterranean climate with warm, dry summers and cool moist winters. The climate, topography, geology and land use patterns within this region determine the vegetation patterns. Vegetation within the Kaweah Battalion varies from annual grasses and forbs on the valley floor to mixed conifer forest at the higher elevations. The lower elevations manifests annual grasses, including wild oats, and loading varies from year to year based on seasonal rainfall. Between 500'-1000' elevation this changes to an Oak Woodland fuel type with brush becoming more prevalent along with pockets of gray/bull pine starting around the 2000' level. The brush component is made up of several species, including, but not limited to; manzanita, chemise, scrub oak, live oak and poison-oak. The brush is interspersed with black oak and live oak, buckeye trees and sycamore (in drainages) with higher densities on the north and east aspects. This vegetation type continues to about 3500' where it blends into the Conifer Belt with scattered oaks, brush and conifer trees. At about 4500' conifers become the dominant fuel with such species as; cedar, pine, fir, live oak and black oak with a mixed brush understory which includes bear clover, lotus, chinquapin and whitethorn.

Topography:

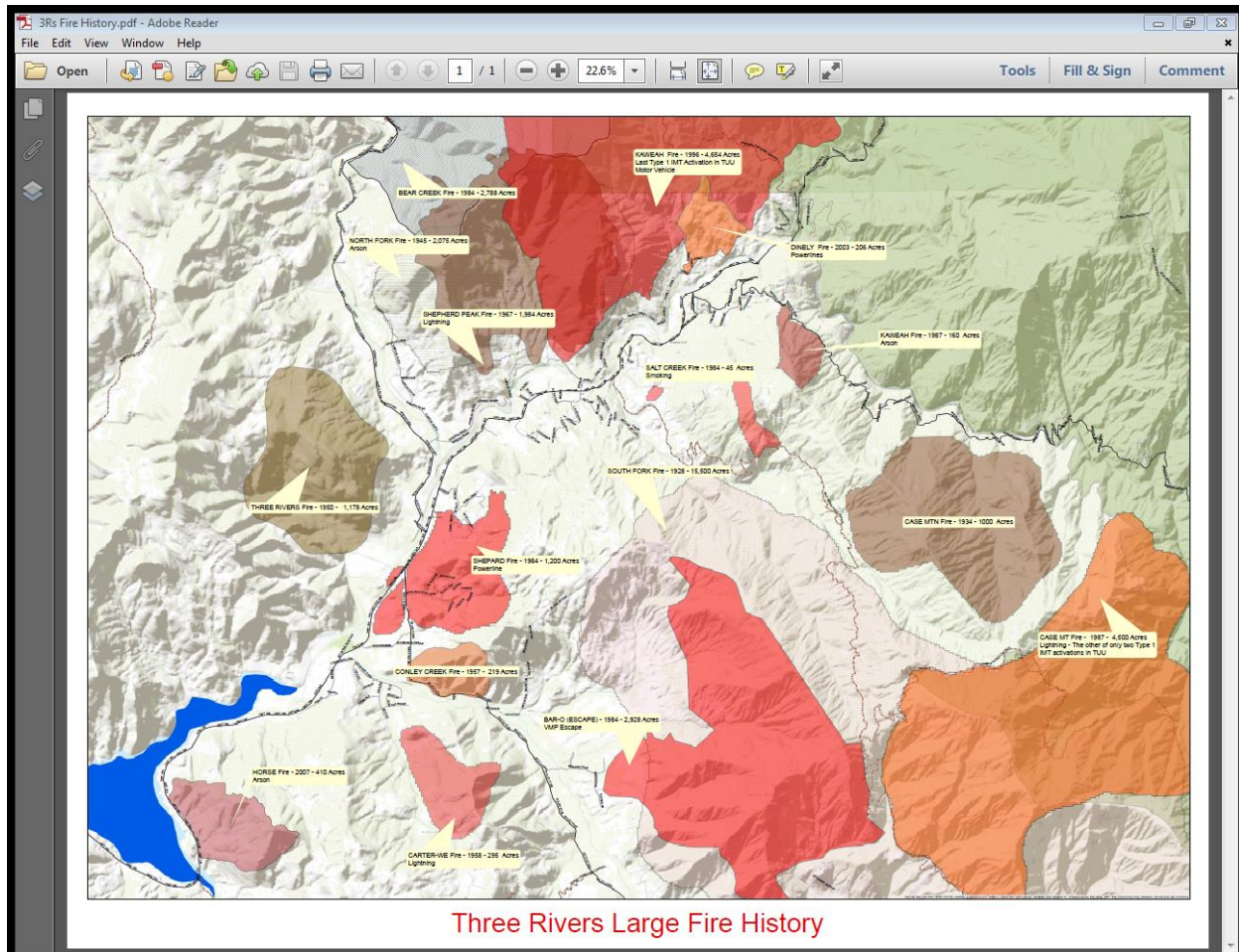
The Kaweah Battalion is typical of most of the foothill areas in the Southern Sierra Nevada Range and encompasses a large portion of the Kaweah drainage and the Cottonwood Creek drainage. The Topography ranges from gentle rolling foothills above the Central Valley floor at 400' elevation to steep river drainage along Kaweah River. Major ridges and mountains are separated by small ravines, rugged canyons, and a few gentle valleys with elevations within the State Responsibility Area topping out near the 5000' elevation range.

Weather:

Typical summer weather patterns consist of 90 – 105 degree days with humidity's in the upper teens to low 20's and nights in the upper 50's to near 70 degrees with humidity's in the high 30's to low 50's. Winds are generally diurnal, up slope, up canyon generally around 10am and switch to down slope, down canyon shortly before sunset. The winds can be upwards of 10mph and tend to have a heavy influence on fire behavior.

Fire History:

The Kaweah Battalion averages approximately 8-15 fire starts annually. The majority of fires started are due to vehicle or electrical power in the lower grasslands. Lightning tends to be a common fire cause in the higher elevations. Although rare, starts in the upper elevations within the Battalion do pose a significant potential for a large extended attack fire. Large extended attack fires have occurred in the Battalion over the years with several fires in the 500 – 1000 acre range. The only (2) type 1 Incident Management Team activations in the Tulare Unit were in the Kaweah Battalion being the Case Mountain fire in 1987 and the Kaweah Fire in 1996.



2015 Kaweah Battalion Accomplishments

The Kaweah Battalion accomplished a number of 2015 battalion projects. One of the major projects was the Three Rivers Forest Fire Station Landscape Demonstration project. Collaborators on the project included CAL FIRE, Tulare County land owners in the State Responsibility Area, Sequoia Fire Safe Council, and the Three Rivers Community Garden club.



A large amount of work and donation were provided by the Three Rivers Garden Club to provide drought tolerant, fire resistive, native vegetation. The demonstration area labor and design were completed by CALFIRE employees and inmate crews from the Mountain Home Conservation Camp.

Other notable completions include the annual fuel break around Lake Kaweah. This 6 mile long project is accomplished utilizing Inmate Fire

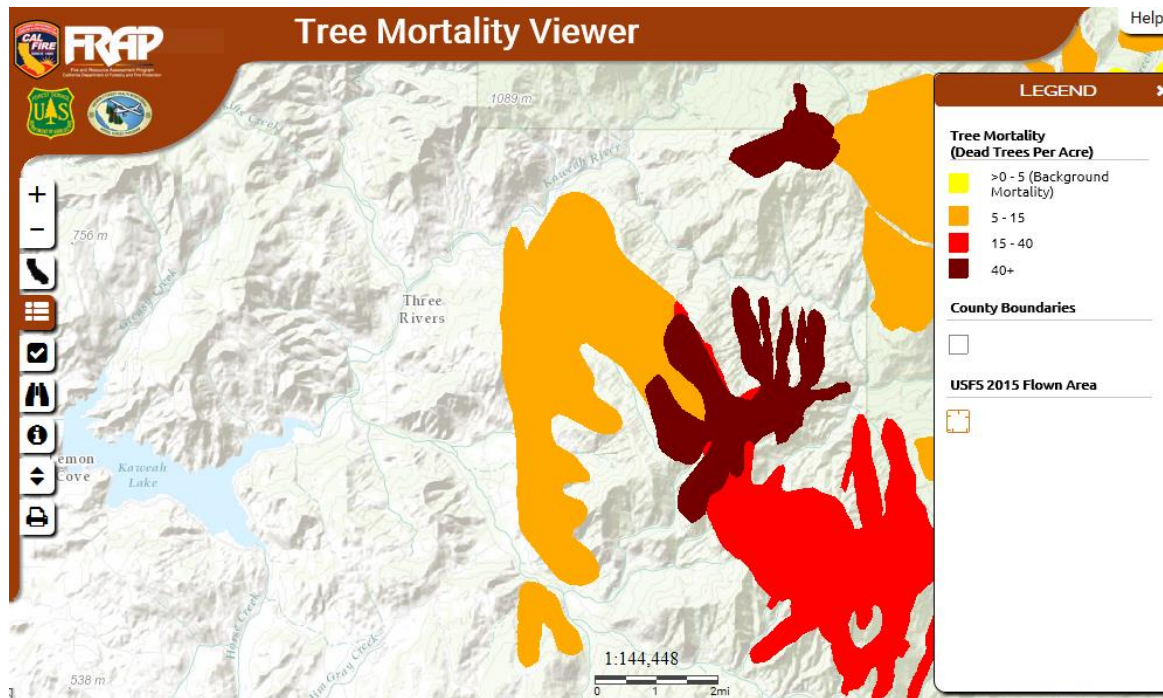
Crews and has proven to be effective by stopping and or slowing roadside start wildland fires saving feed for cattle and protecting the watershed. Engine crews brushed and maintained fire roads and directional signs throughout the battalion which assists with the ability to reach fires in the rangeland and the capability of rapidly controlling and confining them.

In 2015 the fire prevention signs throughout the battalion have were all updated, rebuilt, and/or replaced. This endeavor required replacement of several sign frames that had been hit by vehicles. We also received a new batch of sign that represent current prevention messages from the department for the community. We were also able to complete maintenance on the sheep creek water tank and supply system in 2015. Additionally, a fuel break project around the property of the Three Rivers Historical Society Museum was accomplished in 2015. It was in dire need of a fuel break. The outside perimeter of the property had become overgrown with flammable vegetation and was extremely vulnerable to catastrophic loss in the event of a wildland fire.



Concerns:

Tree Mortality: The Three Rivers community is at a heightened risk of catastrophic fires due to recent increased tree mortality rates. As indicated on the FRAP Tree Mortality Viewer, most higher elevations in the battalion range from 20+ to 40+ dead trees per acre. Tree mortality on Case Mountain and in the Grouse area is evident by plain sight and show well over 75% mortality rate in conifers.



Pre-Attack Plans: The department needs updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, heli-spots, and plot probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models. Distribute the maps so equipment from other stations / areas can efficiently function within the Kaweah Battalion.

Battalion Priorities:

Updating and maintaining our fire road system is a top priority in the Kaweah Battalion. By ensuring these road systems are well maintained, it allows us to access areas within the Battalion that would otherwise be difficult to access. Although the fire roads are necessary for access, they also serve as fuel breaks and need to be maintained as such.

Proposed fuels reduction projects in the Battalion have been identified. Some are in the process of nearing completion, while other proposed projects are still waiting for final approval. Current projects are; updating Pre-attack plans, the Rat Trail projects on the North Fork Drainage and around Kaweah Lake, Grouse Valley FCR fuel Break, Grouse Valley VMP, Mankin Flat VMP.

Priority #1

Project Name: Fire Control Road maintenance

Description: Maintain the fire control roads in the battalion for fire suppression and quick access to fires.

Community: Badger, Kaweah, Three Rivers, Lemon Cove.

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council.

Priority #2

Project Name: Kaweah Lake "Rat Trail":

Description: Fuel reduction with hand crews.

Community: Three Rivers, Kaweah, Lemon Cove, Hammond

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council.

Priority #3

Project Name: Tree Mortality

Description: VMP/Fuel Reduction

Community: Three Rivers

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #4

Project Name: Three Rivers Elementary School Fire Break

Description: Maintain existing fuel modification with hand crews

Community: Three Rivers

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council.

Battalion Priorities:

Priority #5

Project Name: Library / Public playground cleanup 42052 Eggers Dr. Three Rivers, Ca.

Description: Fuel modification; utilize CAL FIRE Crews to eliminate heavy fuel from around playground and county library.

Community: Three Rivers, Kaweah, Lemon Cove,

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Three Rivers Union School, and Tulare County Library.

Priority #6

Project Name: Kaweah River Dr. / Washburn Dr.

Description: Utilize CAL FIRE Crews to work with the private land owners to eliminate roadside brush. Use Cal Fire Crews to assist the land owners in a chipping day to remove LE-100 material from around the structures in the area.

Community: Three Rivers

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA.

Priority #7

Project Name: Blue Ridge Fuel Break

Description: Fuel modification with hand crews

Community: Three Rivers

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council.

Priority #8

Project Name: Mankin

Description: Fuel reduction around Mankin Flat/Davis Spur Fire control roads

Community: Badger, Dry Creek Rd. Land owners, Lemon Cove

Project Collaborators: CAL FIRE , Kaweah Delta land Conservancy, Sequoia Fire Safe Council.

TULE BATTALION - 4113

Fuels:

The fuels within the Tule Battalion are typical of those found in the Central California San Joaquin valley and Sierra Nevada. This area is influenced by a Mediterranean climate with warm, dry summers and cool moist winters. The climate, topography, geology and land use patterns within this region determine the vegetation patterns. Vegetation within the Tule Battalion varies from annual grasses and forbs on the valley floor to old growth sequoia redwood/mixed conifer forest at the higher elevations. The lower elevations manifest annual grasses, including wild oats, and loading varies from year to year based on seasonal rainfall. Between 500'-1000' elevation this changes to an Oak Woodland fuel type with brush becoming more prevalent. The brush component is made up of several species, including, but not limited to; manzanita, chemise, ceanothus, scrub oak, live oak and poison-oak. The brush is interspersed with black oak and live oak, buckeye trees and sycamore (in drainages) with higher densities on the north and east aspects. This vegetation type continues to about 3000' where it blends into the Conifer Belt with scattered oaks, brush and conifer trees. At about 4000' conifers become the dominant fuel with such species as; cedar, pine, fir, live oak and black oak with a mixed brush understory which includes bear clover, lotus, chinquapin and whitethorn ceanothus. This continues up to about the 5500' elevation where it transitions to a Timber fuel type dominated by fir, pine and sequoia. This type generally manifests areas of heavy downed and dead fuels.

Topography:

The Tule Battalion is typical of most river drainages found in the Southern Sierra Nevada Range and encompasses a large portion of the Tule river drainage and spills over into the Deer Creek drainage on its southern border. The Topography ranges from gentle rolling foothills where it leaves the Central Valley floor at 500' elevation to sheer granite monoliths at the 8000' elevation. The Tule river drainage consists of three major forks; North, Middle, and South forks and is further made up by numerous feeder creeks and seasonal streams. Major ridges and mountains are separated by small ravines, deep rugged canyons, and a few gentle valleys. Due to Glacial activity thousands of years ago large granite boulders, rocky escarpments and sheer rock faces can be found on most ridges and mountains.

Weather:

The Tule Battalion like Tulare County is influenced by a Mediterranean climate with cool moist winters and warm dry summers. Average annual temperatures range from 50's to 70's however it is not uncommon to have temperatures in the low 20s during the winter months and highs exceeding 100 for extended periods during the summer months. The rainy season is October through April and annual rainfall average is 11.03 inches. Summers can be hot as stated earlier with extremely warm temperatures and dry relative humidity lasting for weeks. During the North American Monsoonal season thunderstorms are not uncommon over the higher elevations with some extending out over the Sierra Foothills and valley floor. Some years a Monsoonal push will work from the southwest driving northeast causing thunderstorms with associated lightning and scattered precipitation on the valley floor and foothill region.

Fire History:

The Tule Battalion includes the Hwy 190 corridor which accesses numerous recreation areas such as; Lake Success, Balch Park, Mountain Home Demonstration State Forest, Sequoia National Forest, Eagle Mountain Casino and Giant Sequoia National Monument. The battalion traditionally experiences the majority of the fire activity in the Tulare Unit. Although recreationists contribute to some of the fire causes, a majority of the activity is attributable to arson caused fires. The majority of those fires started are due to arson and equipment use in the lower grasslands. The proximity of the Tule River Indian Reservation which has a decade's long arson history contributes heavily to the battalion's fire responses. Sometimes these are a single fire to a series of fires being set on SRA lands adjacent to the reservation. Large fire history has been primarily in the grass and oak woodland fuel types. There have been a couple fires in the Brush/Timber fuels that originated in the Middle Fork of the Tule River that burned onto or threatened SRA lands; these were the "Coffee" and "Deep" fires. Both fires did pose a threat to Mountain Home Demonstration State Forest.

2015 Tule Battalion Accomplishments

The Tule Battalion accomplished a number of 2015 battalion projects. Some of the projects were the annual fuel break around Lake Success. This 2 mile long project is accomplished utilizing Inmate Fire Crews and has proven to be effective by stopping and or slowing roadside start wildland fires saving feed for cattle and protecting the



watershed.

Within the battalion there are several fire suppression tanks. These tanks are strategically placed and allow fire engines to replenish with water closer to the scene, saving vital time. CAL FIRE has secured funding through grants to maintain these tanks.

There are several fuel breaks within the battalion, two of which are the Rancheria Fuel Break and the Pierpoint Fuel Break. Fuel breaks have proven to be an effective tool at stopping the progression of wildfires, but without proper maintenance the fuel breaks become overgrown with flammable vegetation. Funding has been secured for the maintenance of these two fuel breaks and the planning process has begun to get them back to original condition.



Battalion personnel continue to be proactive with residential clearance inspections (PRC 4291) which requires the 100 foot clearance around all structures within the SRA. Fire Prevention Signs have been placed in high traffic areas reminding residents in the SRA to prepare for fire season by clearing flammable vegetation from their property.

Battalion Priority:

Fire roads and their maintenance is a high priority, they provide access and fire control opportunities to many areas of the Battalion. Many of these fire roads also access ranch roads that local ranchers have put in, which provide even greater access and fire control opportunities. Without the fire road maintenance many areas would be inaccessible to ground equipment and would require time consuming walk in or costly fly in access by ground resources. Another priority is the PRC 4291 inspection program which provides defensible space around the numerous structures in the Battalion. This program has a successful history with improved compliance and the need for citations diminishing each year.

Fire Defense Projects:

There are currently two major projects underway in the Battalion. The “Happy Camp” project which started in 2010 is a fuel break below the community of Happy Camp which resides in the timber belt with extremely high fuel loading, completion of this project was in December of 2012. The Mountain Home Demonstration State Forest Evacuation Plan was completed in December 2012. This is a project that involves different cooperators from different agencies that have a vested interest in the affected area.

Pre-Attack Plans:

Develop updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, and plot probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models. Distribute the maps so equipment from other stations / areas can efficiently function within the Tule Battalion.

Priority #1

Project Name: Fire Control Road maintenance

Description: Maintain the fire control roads in the battalion for fire suppression and quick access to fires.

Community: Springville, Triple R Estates, Mountain Home State Forest, Ponderosa, Camp Nelson, Happy Camp, Tule Indian Reservation.

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, and Sequoia Fire Safe Council.

Priority #2

Project Name: Lake Success “Rat Trail”:

Description: Fuel reduction with hand crews.

Community: Porterville, Springville

Project Collaborators: CAL FIRE, Land owners in the SRA, Sequoia Fire Safe Council

Pre-Attack Plans Cont:

Priority #3

Project Name: Doyle Springs Fuels Reduction/Tree Mortality

Description: VMP/Fuel Reduction

Community: Doyle Springs

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #4

Project Name: Scicon Fuels Reduction/Tree Mortality

Description: VMP/Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #5

Project Name: Sequoia Crest Fuels Reduction/Tree Mortality

Description: VMP/Fuel Reduction

Community: Sequoia Crest

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #6

Project Name: Mountain Home Conservation Camp Fuels Reduction/Tree Mortality

Description: VMP/Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #7

Project Name: Rancheria Fuel Break

Description: Fuel reduction done with hand crews

Community: Springville

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council.

Priority #8

Project Name: Pierpoint Fuel Break

Description: Fuel reduction done with hand crews

Community: Pierpoint Springs, Camp Nelson

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council. United States Forest Service

Pre-Attack Plans Cont:

Priority #9

Project Name: Battalion Fire Prevention Signs

Description: Public education, Fire Prevention Messages displayed on road side signs.

Community: Porterville, Springville, Camp Nelson, Pierpoint Springs, Wishon.

Project Collaborators: CAL FIRE and the Sequoia Fire Safe Council.

FOUNTAIN SPRINGS BATTALION - 4114

Fuels:

The fuels within the Fountain Springs Battalion are typical of those found in the Central California foothills, San Joaquin valley and Sierra Nevada. This area is influenced by a Mediterranean climate with warm, dry summers and cool moist winters. The climate, topography, geology and land use patterns within this region determine the vegetation patterns. Vegetation within the Fountain Springs Battalion varies from annual grasses and forbs on the valley floor to mixed conifer forest at the higher elevations. The lower elevations manifests annual grasses, including wild oats and loading varies from year to year based on seasonal rainfall. Between 500'-1000' elevation this changes to a Woodland Oak fuel type with brush becoming more prevalent along with pockets of gray/bull pine starting around the 2000' level. The brush component is made up of several species, including, but not limited to; manzanita, chemise, ceanothus, scrub oak, live oak and poison-oak. The brush is interspersed with blue oak and live oak, buckeye trees and sycamore (in drainages) with higher densities on the north and east aspects. This vegetation type continues to about 3500' where it blends into the Conifer Belt with scattered oaks, brush and conifer trees. At about 4500' conifers become the more dominant fuel with such species as; cedar, pine, fir, live oak and black oak with a mixed brush understory which includes bear clover, lotus, chinquapin and whitethorn ceanothus.

Topography:

The Fountain Springs Battalion is typical of most of the foothill areas in the Southern Sierra Nevada Range and encompasses a large portion of the Deer creek drainage, White river drainage and the upper portions of the Poso creek drainage on its southeastern border. The Topography ranges from gentle rolling foothills above the Central Valley floor at 400' elevation to steep river drainages. Major ridges and mountains are separated by small ravines, deep rugged canyons, and a few gentle valleys with elevations within the State responsibility area topping out near the 5000' elevation range.

Weather:

Typical summer weather patterns consist of 90 – 105 degree days with humidity's in the upper teens to low 20's and nights in the upper 50's to near 70 degrees with humidity's in the high 30's to low 50's. Winds are generally light and diurnal, up slope, up canyon in the day time and down slope, down canyon at night.

Fire History:

The Fountain Springs Battalion averages approximately 7-10 fire starts annually. The majority of those fires started were due to lightning and equipment use in the lower grasslands with the occasional lightning series caused fires. Each year however you can expect a least a couple of starts in the upper elevations within the Battalion where there is significant potential for a large extended attack fire. Large extended attack fires have occurred in the Battalion over the years with several fires in the 500 – 1500 acre range, there is no known history of major fires in the Battalion.

2015 Fountain Springs Battalion Accomplishments

The Fountain Springs Battalion had many accomplishments in 2015. Some of the projects included the annual “Chipper Day” for the communities of Posey, California Hot Springs and Pine Flat. Residents are required by law to remove flammable vegetation from

around all structures within the State Responsibility Area (SRA). Cal-Fire recognized that by doing so there will be problems disposing of the material. Mountain Home Camp fire crews and commercial chipper are



used (and paid for with funding from grants obtained by Fire Safe Councils) to

condense and eliminate the brush free of charge to the community residents.

Station personnel also drove all fire control roads noting their condition and removing flammable brush where needed. Engine

companies also cleared out culverts utilizing high pressure pumps and hose

which allows water drainage and keeps the road from washing out.

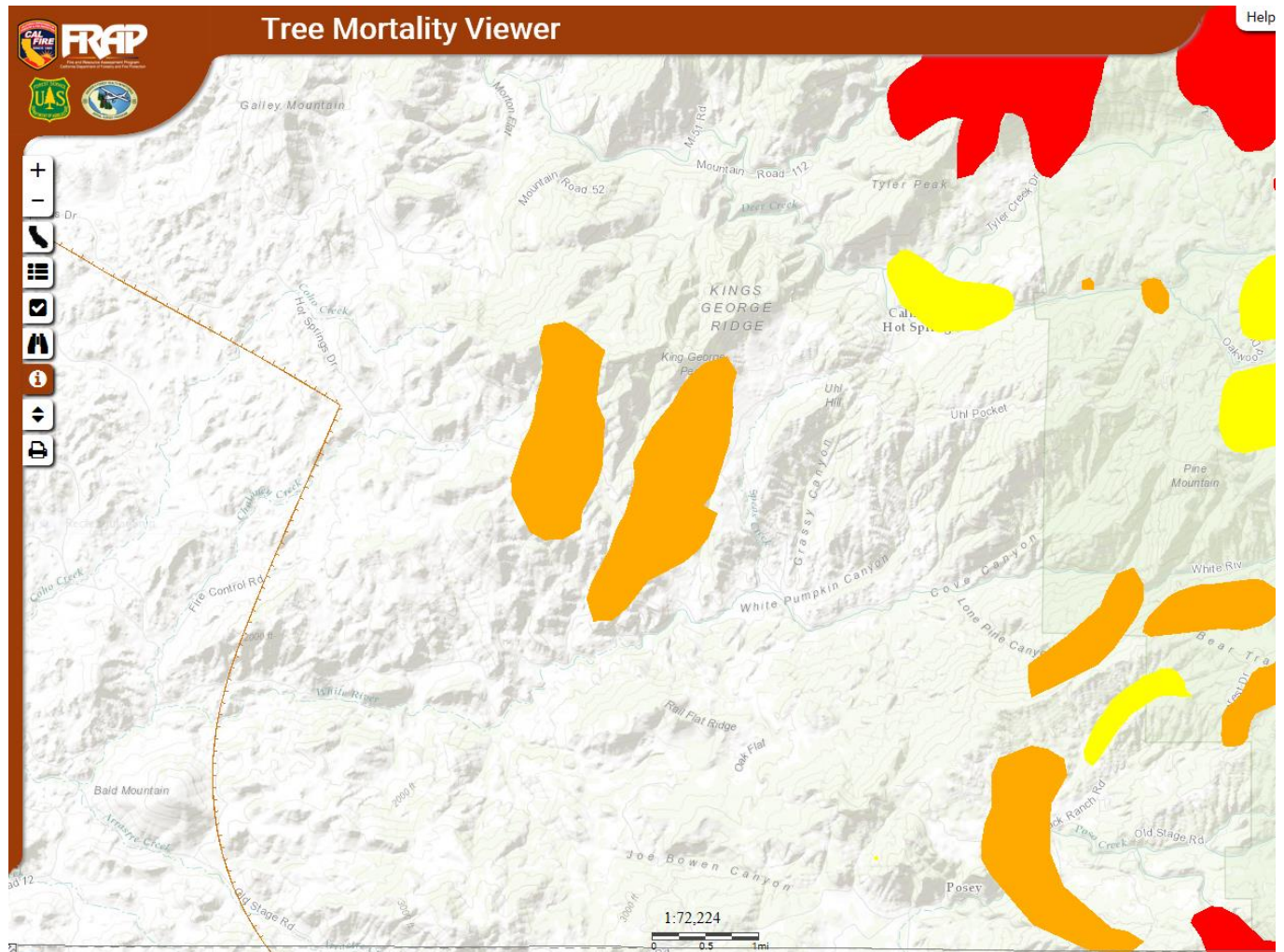
Battalion personnel continue to be proactive with residential clearance inspections (PRC 4291) which requires the 100 foot clearance around all structures within the SRA. We have placed Fire Prevention Signs throughout the battalion in high traffic areas reminding the public to prepare for fire season by clearing flammable vegetation from their property.



CONCERNS:

TREE MORTALITY:

The communities of Posey, California Hot Springs, and Pine Flat are at a heightened risk of catastrophic fires due to recent increased tree mortality rates.



- **TREE MORTALITY** — Results of 2012-2015 aerial tree-mortality surveys. See how the situation has dramatically worsened over the years. Using a color legend (click on the legend bars icon on the far left of the Viewer) the map shows:
 - Deep burgundy depicting areas with more than 40 dead trees per acre
 - Red depicting 40 - 15 dead trees per acre
 - Orange depicting 15-5 dead trees per acre
 - Yellow depicting 5 or less dead trees per acre

Battalion Priority

Updating and maintaining our fire road system is a top priority in the Battalion. By ensuring these road systems are well maintained allows us to access areas within the Battalion that would otherwise be difficult to access. This also gives us the opportunity to interact and get to know the stake holders and land owners in these areas.



Proposed fuels reduction projects in the Battalion have been identified and the proposed projects are still waiting for final approval. The number one priority is to reduce fuel loading in and around the communities of Pine Flat and California Hot Springs. In 1997 a fuel break was begun around Pine Flat using Mountain Home crews, this fuel break was never completed or maintained. Working with the Fire Safe Council this project will hopefully be a reality again within the next 2 – 3 years.

The second priority is to gain approval for a mechanical VMP. This project would reduce fuel loading as well as improve grazing land and wildlife habitat. It is also our desire to identify ways of reducing fuels in and around the Posey and Jack Ranch areas.

Areas of concern:

1. There are two small communities within the Battalion, Pine Flat/Hot Springs and Panorama/Posey.
2. The lower elevations within the battalion, consists mostly of large tracks of ranch land with very few residences.

Pre-Attack Plans:

Develop updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, and plot probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models. Distribute the maps so equipment from other stations / areas can efficiently function within the Fountain Springs Battalion.

Priority #1

Project Name: Fire Control Road maintenance

Description: Maintain the fire control roads in the battalion for fire suppression and quick access to fires.

Community: Fountain Springs, California Hot springs, Poso, Poso Park, Jack Ranch, Sugar Loaf Village

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council.

Priority #2

Project Name: Posey Chipper Day

Description: Location and time frame for the community to dispose of their LE-100 material for chipping.

Community: Panorama Heights & Poso Park

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council and The US Forest Service

Priority #3

Project Name: California Hot Springs / Pine Flat Chipper Day

Description: Location and time frame for the community to dispose of their LE-100 material for chipping.

Community: California Hot Springs & Pine Flat

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council and The US Forest Service

Priority #4

Project Name: Posey Fuel Break

Description: Fuel Reduction done with hand crews

Community: Panorama Heights & Poso Park

Project Collaborators: CAL FIRE, Tulare County land owners in the SRA, Sequoia Fire Safe Council and The US Forest Service

Priority #5

Project Name: Battalion Fire Prevention Signs

Description: Public education, Fire Prevention Messages displayed on road side signs.

Community: Fountain Springs, Posey, Pine Mountain, Ducor, Panorama Heights, California Hot Springs

Project Collaborators: CAL FIRE and the Sequoia Fire Safe Council.

AIR ATTACK PROGRAM: Porterville Air Attack Base, Battalion 4108



The Porterville Air Attack Base was established in 1959, originally a US Forest Service Base. In 1966 CAL FIRE and the Forest Service signed a cooperative agreement, in the mid 70's Bureau of Land Management joined in on the agreement and have augmented staffing when needed. Originally a three pad base, in 2003 a new base was placed in service. This base consists of an Operations Building, Warehouse, Hanger, Retardant Mix Plant and five loading pads.

Staffing at Porterville Air Attack Base consists of one OV-10 Bronco, used as an aerial supervision platform, and two S2T air tankers. Often times one or more Federal Air Tankers will be assigned to the base. With the air bases new electric pumps, 70,000 gallons of fire retardant storage, and five pads it has a peak output of 225,000 gallons a day. On average Porterville Air Attack Base Supplies 775,000 gallons of fire retardant to incidents each year, supporting 6 counties, 5 forests, as well as, BLM and BIA ground totaling over 10 million acres of fire protection.

MHCC Program Information

Division 4103

Mountain Home Conservation Camp in the past year completed working on a number of grant funded pre-fire projects. Among them were the Rat trails along Hwy 190 and 198 above the lakes and Mountain Home Demonstration State Forest roadside fuel break and thinning projects. All of these projects will provide either enhanced defensible space, fuel bed modification, or fuel breaks to protect lives, property, and resources from the threat of a catastrophic wildfire. The camp has also committed numerous crew days in preparing sites on Mountain Home Demonstration State Forest for the Prescribed Fire program that is relatively new



on the Forest. The burn sites require different fuel treatments so that a variety of burn applications can be utilized to modify the fuel bed and promote Giant Sequoia regeneration.



The camp also has a sign shop which produces fire prevention signs which are intended to heighten fire safety awareness of the public. Additionally, the camp performs much community and public service work throughout the

county. Examples of cooperators are the Tulare County Resource Conservation District, various Fire Safe Councils, Tulare County Road Department, U.S. Army Corps of Engineers at Lakes Kaweah and Success, City of Porterville, City of Lindsay, Tulare County Office of Education's Scicon and Circle J Norris Ranch campus's, and a number of private landowners and citizens.

The latter part of the year saw the camp struggling to keep crews up to minimum staffing due to the dwindling camp population as a direct result of Prop 149, non-violent inmate's early release, reduced sentences or transferred custody back to the local Counties. The camp performs thousands of man hours each year in support of Pre-fire projects, Fire road maintenance needs and prevention goals for the Field Battalions and Unit.



Mountain Home Demonstration State Forest

Division 4104

Mountain Home Demonstration State Forest (MHDSF) Fuel Reduction and Restoration Activities

- Over the past six years, fuel treatments have occurred within 100' of most of the primary roads that are manifest on the State Forest. These roads are as follows: Bear Creek, Balch Park, Camp Lena, Summit, and River Roads. Work involved pre-commercial thinning of conifers typically less than 8 inches DBH and full removal of woody brush species. Material generated from the uphill side of the road was either pulled to the road and chipped or piled for seasonal burning. Material generated from below the road was piled for seasonal burning. Some portions of these fuel treatment areas were performed via mastication. All cutting, piling and chipping was performed by MHCC crews, cover crews and USFS "blue card" crews and/or MHDSF staff. Pile burning was performed by MHDSF staff and MHCC crews on permissive burn days with a permit through the San Joaquin Valley APCD. More work is needed to complete the treatment along the primary road system on Moses Gulch Road and some small segments of the River Road. When these remaining segments are completed, all of the primary roads will have received the initial treatment. Similar treatments have begun along the secondary roads with the treatment area only extending 50' from the edge of the travelled surface. Given the dynamic nature of vegetation response to disturbance, sprouting and natural seeding will eventually re-invade the treated areas. These areas must be maintained by chemical and/or manual means which may and should include the use of prescribed fire.
- Maintain a defensible fuel profile within and around day use areas and campgrounds. Saplings and small poles shall be marked by MHDSF staff for cutting and chipping/burning. This work will take place within the common campground and day use facilities and shall extend for a distance of at least 100' in all directions from the campground improvements. The treatment distance will be increased as slope increases.
- Maintain PRC 4291 clearance around all State owned and operated structures that are maintained for human habitation. This shall include the summer and



winter headquarters, barracks, Jack's house and pack station. Similar maintenance shall be performed around the fuel tank, and warehouse as well.

- Continue fuel treatments in selected areas throughout the forest. Strategically located areas that are within close proximity to roads or trails shall be selected for treatment. These areas shall be treated by pre-commercial thinning of conifers typically less than 8 inches DBH and full removal of woody brush species. All cut vegetative matter shall be piled for seasonal burning. All cutting and piling shall be performed by MHCC crews, cover crews, and/or USFS "blue card" crews and/or MHDSF staff.



- The Tulare Unit Forester shall prepare a Vegetation Management Plan (VMP) to address significant fuel loads in a number of different units. Those units are identified in the following locations: Coppermine Road, River Road, Jacks Road, Galena Creek Road, Redwood Crossing, Summit Road and Dogwood Meadow Road. Acreages and specific treatment methods have not yet been determined but are expected to include both pile and broadcast burning. Burning has proven to be difficult with state and local regulations often requiring that burns are conducted during times when burn conditions are too wet. Fire prescriptions account for weather and fuel conditions and burns must be implemented when those conditions are favorable. More work needs to be done with planning agencies to increase the opportunities to conduct management burns.

Recent Harvest Activity

- Timber harvest and associated fuel reduction work has been completed on two timber harvest plan (THP) areas within MHDSF. Timber Harvest Plan #4-09-010/TUL-1 (At Last) bolstered the dozer line that was constructed during the "Deep Fire" in 2004. The harvest area was 220 acres in size and extends east from Summit Road over the prevailing north-south trending ridge that separates Mountain Home DSF proper from the Wishon Fork of the Tule River canyon. The north, east and south boundaries are defined by property lines and/or steep, inoperable terrain. Harvest operations left a residual stand that contains between 50 to 160 square feet of basal area per acre on average. Residual trees were selected from the largest and most fire resistant specimens from the pre-harvest

stand. The intent of the fuel break is to slow or stop a wildfire coming from the Wishon Fork of the Tule River before it enters the major land holdings of the State Forest. The harvest focused on disconnecting the horizontal and vertical fuel ladders creating a more defensible fuel profile. All of the harvesting that occurred within this timber sale was done conventionally with chainsaws and tractors. Sub-merchantable trees and brush were treated by tractor piling and burning, hand piling and burning, and some broadcast burning. This project was necessary to protect the public, infrastructure, State property and forest resources, watershed and habitat values, soil, and old-growth giant sequoia.

- Harvest operations on Timber Harvest Plan 4-11-021/TUL-1 (Dynamite Springs) were conducted conventionally during the fall of 2012 and summer of 2013 when weather and ground conditions allowed. The harvest area was 353 acres in size and spread south of the At Last THP boundary to the State Forest boundary; west from Summit Road to the operational boundary located west of the State Forest administrative facilities; and north to the common boundary between Balch County Park and MHDSF. This harvest focused on leaving a residual stand that contains between 50 to 160 square feet of basal area per acre on average. Residual trees were from all size and age classes and were distributed as single trees and groups of trees. The intent of the harvest was to accomplish a number of desired conditions; one of which was to modify forest fuels. This modification left the treated stand in a more defensible condition with disrupted horizontal and vertical continuity of fuels. Slash created and trees knocked down were removed from within 150 feet of structures and from within 100 feet of primary roads. Additional fuel treatments were performed with a masticator, hand piling and burning and broadcast burning. This project was necessary to protect the public, infrastructure, State property and forest resources, watershed and habitat values, soil, and old-growth giant sequoia.

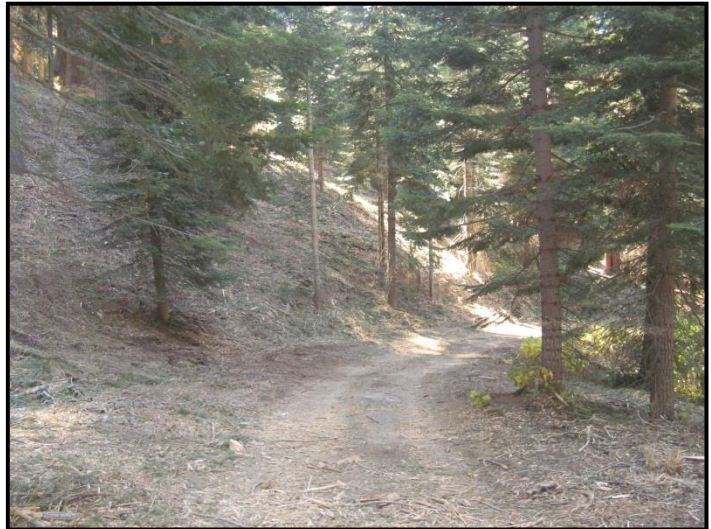
Additional Fuel Treatments

- Approximately 122 acres of second growth forest was mechanically masticated in the fall of 2012. This operation took place in Section 34 in the western portion of the State Forest. This particular parcel is located adjacent to a number of private parcels and USFS land. The intent of this operation was to disrupt fuel



connectivity and provide demonstration opportunities to private landowners. The treatment was funded through Proposition 40. Much of the treated area in Section 34 is planned for prescribed burning. Most of the area to which the burn shall be applied is bounded by roads or natural fire-lines. Any remaining line construction will be accomplished by MHCC crews. This burn shall be done sometime within the next few years when climatic and fuel conditions are favorable.

- Mastication operations continued on another 510 acres during the summer and fall of 2013. The 510 acres were strategically located within four distinct units. The treatment involved the mechanical grinding of overstocked saplings, poles and brush. The first area is 200 acres in size and is located on the ridgeline which



extends east and north from Frasier Mill Campground. The unit was treated to an average width of approximately 350 feet. The unit terminates at the Camp Lena Road near the intersection with Summit Road. This unit was funded via a grant through the Sierra Nevada Conservancy. This unit shall be maintained by a combination of chemical and prescribed fire treatments.

Additional Fuel Treatments Cont.

The second unit treated in 2013 was 277 acres in size. This unit essentially surrounds Balch Park on the north, east and south. This treatment effectively reduced the probability of a crown fire burning into Balch Park from the State Forest and vice-versa. It also helps to create a safety zone for users of Balch Park and MHDSF campers in the event that the evacuation plan is initiated for a wildfire. This unit ties in to the shaded fuel breaks created with the At Last and Dynamite Springs THP's. This treatment was funded in part by both Proposition 40 and the Sierra Nevada Conservancy.

The forth unit that was treated in 2013 was approximately 50 acres in size which is located on gently sloping and benchy ground east of Summit Road and north of the At Last timber sale boundary. This unit was not treated as completely as the others as it was designed to be a pre-fire treatment to facilitate an ecological burn in the future. Again, this work was funded by Proposition 40.

An additional 35 acres of mastication was performed south of the State Forest Headquarters in and adjacent to a 25 year old mixed conifer plantation. Overstocked, suppressed, diseased and damaged trees were selected for removal, leaving a well-stocked stand of healthy second growth timber. Much of this area is located on MHDSF that is within open range and it is anticipated that vegetative sprouting will be controlled by grazing.

Planned harvest operations

- Mountain Home foresters are currently planning a selective harvest on approximately 300 acres located in the area accessed via Tub Flat Road. This harvest will focus on the removal of individual large trees that are succumbing to insects and disease, thinning of smaller trees to create growing space and improve forest health, and shade tolerant species that have grown into the crown of old-growth giant sequoia. The methods that are proposed to achieve the desired outcome include single tree selection and group selection. Residual forest fuels created during harvesting shall be treated by tractor piling and burning and hand piling and burning. Broadcast burning opportunities will be evaluated following harvest.
- The drought conditions that have plagued the forest since 2012 are resulting in substantial tree mortality. Sugar pine, ponderosa pine, incense-cedar and the true firs are all succumbing to insect attacks from being weakened by water deficit stress. All harvest efforts will focus on the removal of these dead and dying trees in order to capture some value before they deteriorate. Pine slash that is suitable as beetle brood material shall be treated at a minimum by lopping

to a length of no more than four feet. Large accumulations of slash shall be treated by piling and burning.

- Salvage operations began in May of 2015 with just under 1.25 MMBF being harvested by October 1. It is estimated that another 2.5 to 3.25 MMBF are still available to harvest. With fire and beetle salvage timber being widespread throughout the region, finding a suitable purchaser of MHDSF timber is proving to be futile.

Planned fuel treatments

- Mountain Home Demonstration State Forest will be applying for another grant through the Sierra Nevada Conservancy to masticate an additional 300 acres of land. The treatment area will extend down a narrow “hog-back” ridge west of the Wishon Fork of the Tule River. It will further extend upslope along the same ridgeline to Shake Camp and the Pack Station. Should we be awarded the grant, it is anticipated that the work will commence in late 2016 or early 2017.

Summary

Current management activities at MHDSF focus on the restoration and protection of a magnificent Southern Sierra mixed conifer forest. This forest contains 4,750 old growth giant sequoia specimens which John Muir referred to as “the finest the Sierra had to offer”. Given the history of fire suppression activities in the western states, forest managers must keep fuel loading and resource protection as a top priority. In the face of impending climate change, managers must consider the ecological needs of the species contained within the forest and develop strategies to minimize the potential for long-term negative effects. Wildfires that occur on the majority of public lands are getting bigger and burning with more intensity than they have historically. These “mega fires” indiscriminately destroy habitats and watersheds and set succession back centuries. The management activities occurring at MHDSF are designed to reverse the trends of overstocking by creating a forest that more closely resembles the pre-European condition as was found by the pioneers.

It should be noted that all of the on-the-ground activities that take place at MHDSF have been thoroughly planned and evaluated and are in compliance with the California Forest Practice Rules, California Environmental Quality Act, California Department of Fish and Wildlife Rules, Air Pollution Control District Rules and Regional Water Quality Control Board Rules and Regulations. If you should have any questions or comments regarding the management of Mountain Home Demonstration State Forest, you can contact the Forest Manager at 559-539-2855.

TRAINING BUREAU

Battalion 4106


The Tulare Unit Training Bureau has set several goals to improve firefighting effectiveness, training efficiency and safety of its members.

The Goals include but are not limited to:

1. All Unit personnel attend all or applicable segments of the annual Continued Professional Training (CPT) academy(s) to maintain firefighting skills and required recurrence training. The intent is for personnel to meet 4032 and 4064 training requirements.
2. All TUU Fire Control personnel to attend “A” Faller training.
 - a. Selected personnel will attend “B” Faller Training
 - b. Selected personnel will attend “C” Faller training
 - i. Selected individual “C” Faller will be named as the Chain Saw Program Coordinator (CSP)
3. All TUU Fire Control personnel receive continued training on firefighting tactics and safety in both wildland and structural firefighting. Two examples of such training include Firefighter Survival (structural) and Sand Table scenario training.
4. All TUU Battalion Chiefs, Fire Captains and FAE’s attend C-234 Intermediate Firing Operations course.
5. All TUU Fire Control Personnel assigned to the Porterville Air Attack Base attend the following training where applicable:
 - a. Air Base Safety Training
 - b. Air Tanker Base Manager (ATBM) Training
 - c. C-378 Aerial Supervision (ATGS) Training
6. All Tulare Unit “Frequent Drivers” comply with department policy regarding Defensive Driver training by successfully completing the Department of General Service-ORIM online Defensive Driver Training at least once every four years.

TUU personnel attend applicable training and qualify in Incident Command System (ICS) positions. The intent is to meet the Unit’s obligation to Minimum ICS Qualified Personnel Matrix (7700) located in Handbook 7000 - Fire Operations.

APPENDIX A: PRE- FIRE PROJECTS

<u>PROJECT NAME</u>	<u>PROJECT STATUS</u>	<u>TYPE</u>	<u>TREATMENT FOOTPRINT ACRES</u>	<u>TREATMENT FOOTPRINT MILES</u>
 <p>PRE-FIRE PROJECTS</p> <p>For Tulare Unit (TUU)</p> <p>2016</p> <p>04/08/2016</p>				
Buzzard Roost FCR	Active	FirePlan	27.73	0.00
Camp Nelson FB and Chipper Day	Complete	FirePlan	0.00	0.00
Doyle Springs	Active	FirePlan	188.90	0.00
Hartland Christian Camp	Active	FirePlan	34.01	0.00
Kaweah Oaks Preserve	Complete	FirePlan	0.00	0.00
Kaweah Rat Trail	Active	FirePlan	16.99	0.00
MHDSF Pile Burning	Active	FirePlan	0.00	0.00
Mountain Home Camp	Active	FirePlan	51.21	0.00
N. Tulare Co. FB Maintenance	Planned	FirePlan	0.00	0.00
S. Blue Ridge Fuel Break	Planned	FirePlan	0.00	0.00
S. Tulare County FB Maintenance	Planned	FirePlan	0.00	0.00
Scicon	Active	FirePlan	10.96	0.00
Sequoia Crest	Planned	FirePlan	0.00	0.00
Tulare Co. North CWPP Update	Planned	FirePlan	0.00	0.00
Tulare County Chipper Days	Active	FirePlan	0.00	0.00
Tulare County Fair	Active	FirePlan	0.35	0.00
Tulare County South CWPP Update	Planned	FirePlan	0.00	0.00

APPENDIX B: UNIT GOALS AND OBJECTIVES

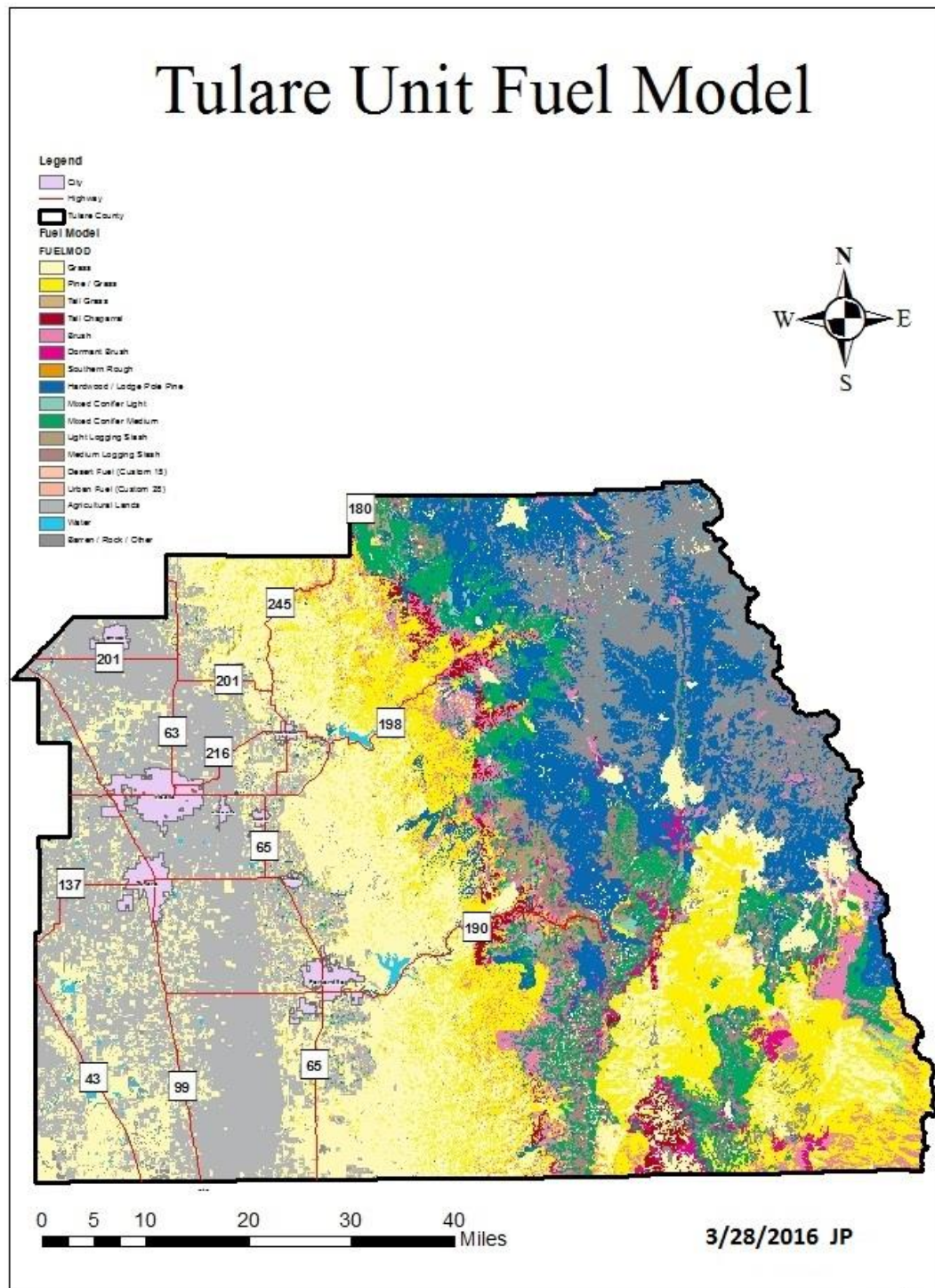
The Tulare Unit Key Goals and Objectives from the California Strategic Fire Plan:

- Support the implementation and maintenance of defensible space inspections around structures.
- Analyze trends in fire cause and focus prevention and education efforts to modify behavior and effect change to reduce ignitions within Tulare County.
- Continually evaluate the success in achieving the 95% threshold of keeping fires less than 10 acres in size.
- Identify and evaluate wildland fire hazards and recognize assets at risk, collecting and analyzing data to determine fuel reduction project or other projects.
- Support the availability and utilization of CAL FIRE resources, as well as public and private sector resources, for fuels management activities, including ongoing maintenance.
- Assist landowners and local government in the evaluation of the need to retain and utilize features (e.g. roads, fire lines, water sources) developed during a fire suppression effort, taking into consideration those identified in previous planning efforts.

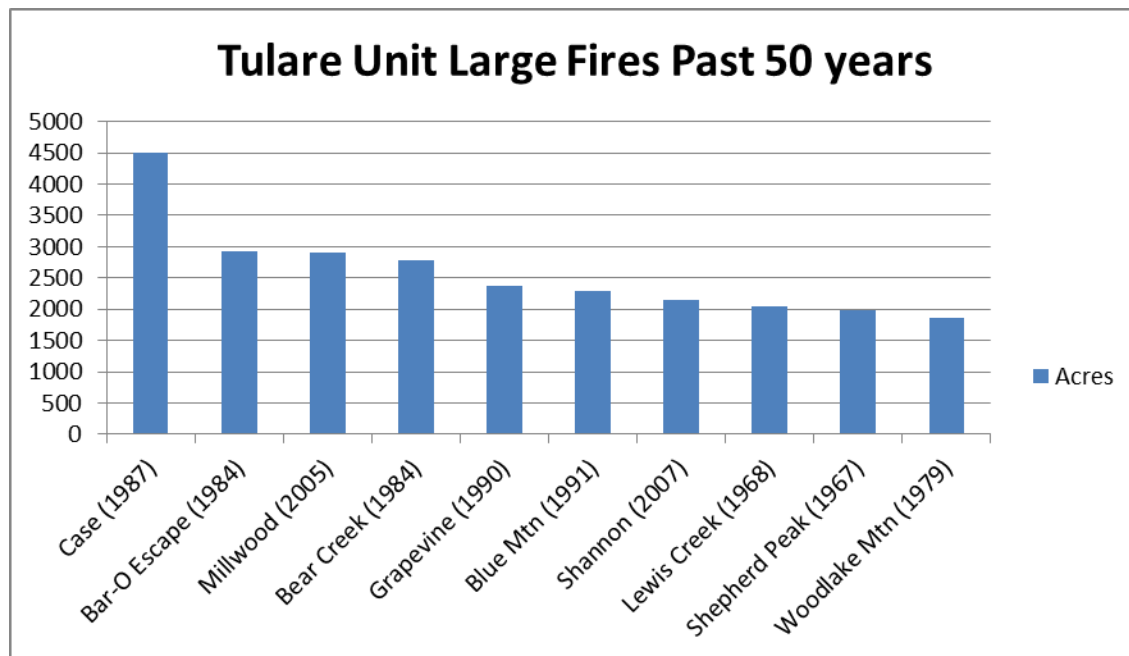
CAL FIRE MISSION STATEMENT:

The California Department of Forestry and Fire Protective serves and safeguards the people and protects the property and resources of California.

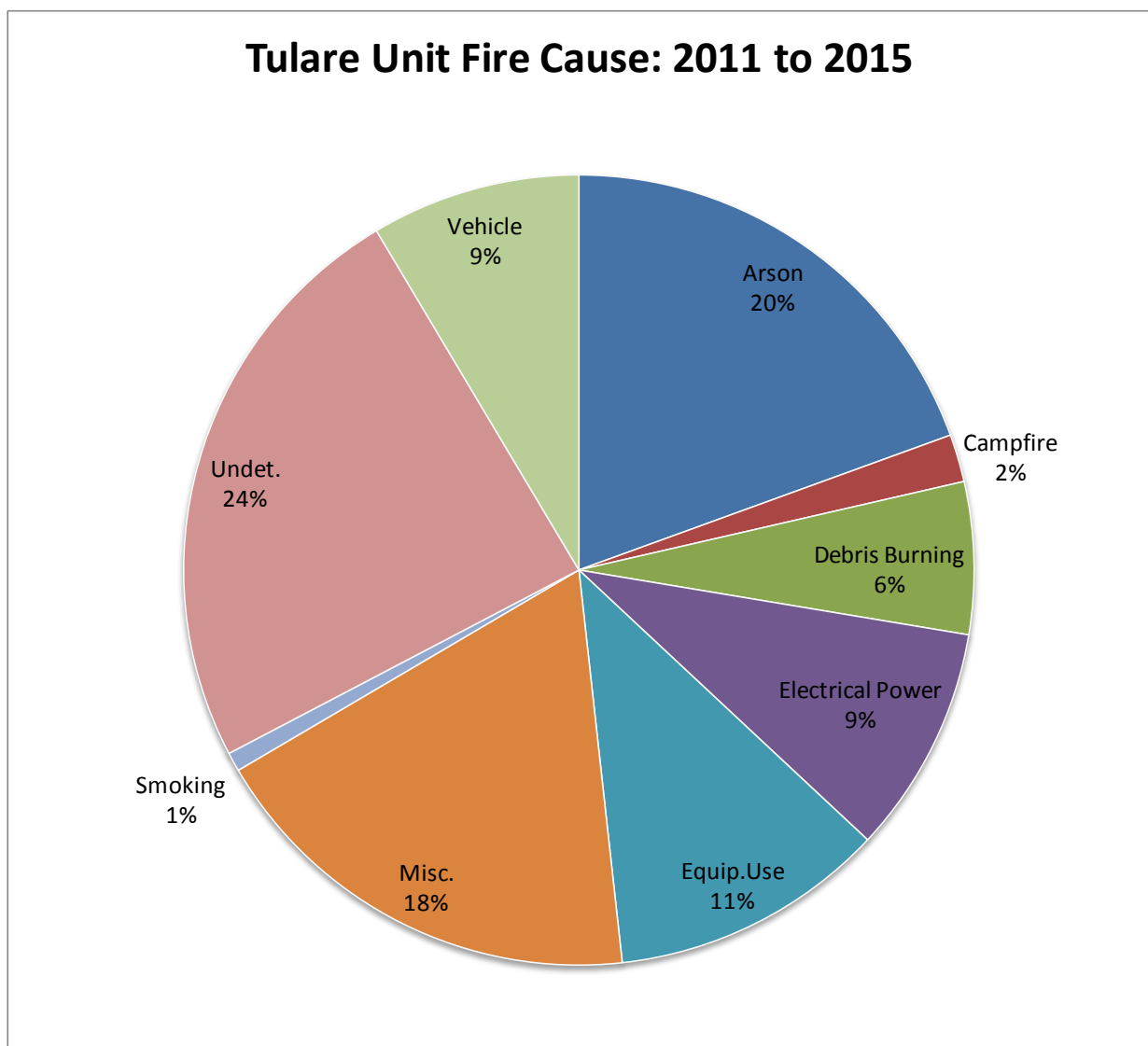
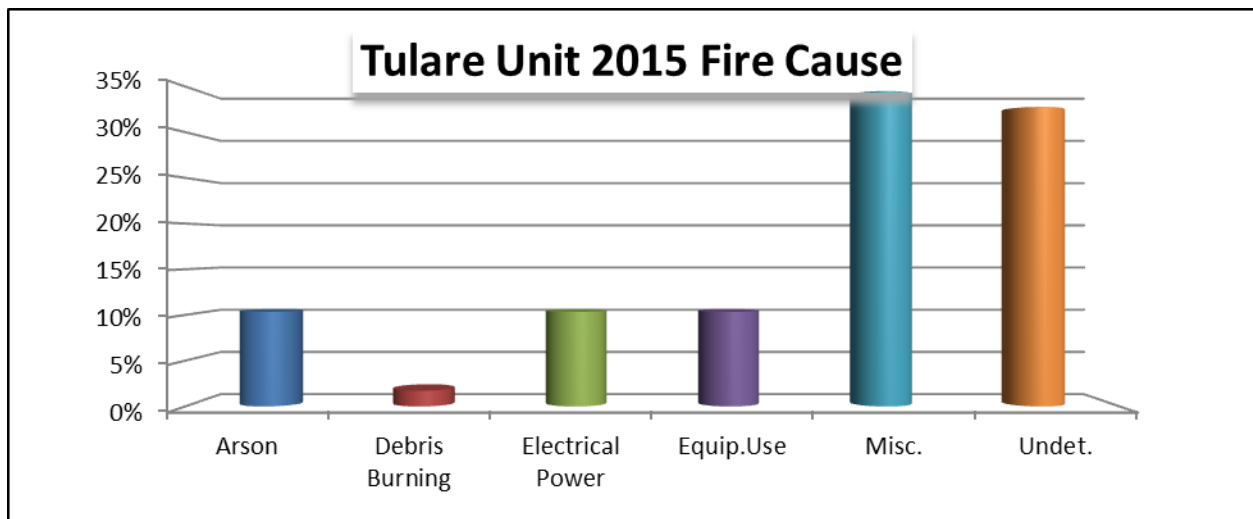
APPENDICE C: FUEL MODEL

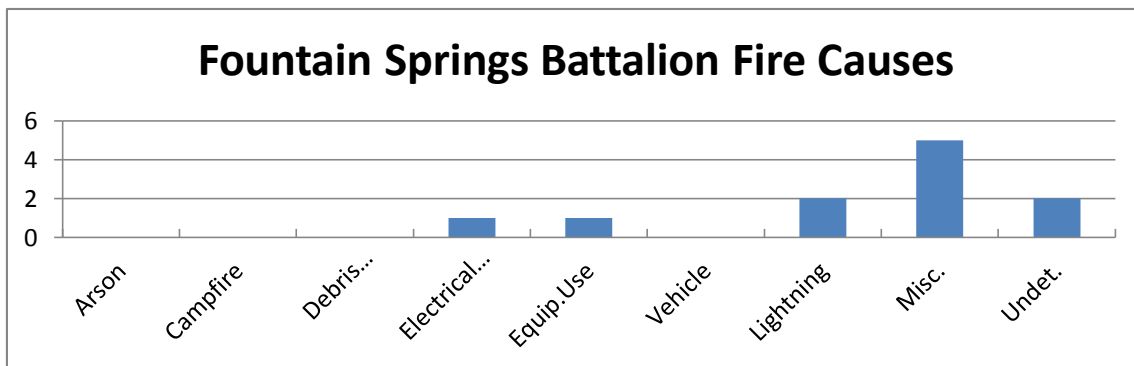
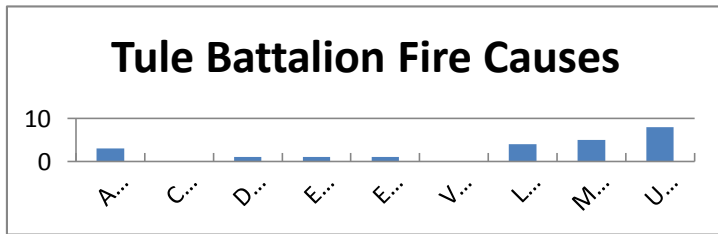
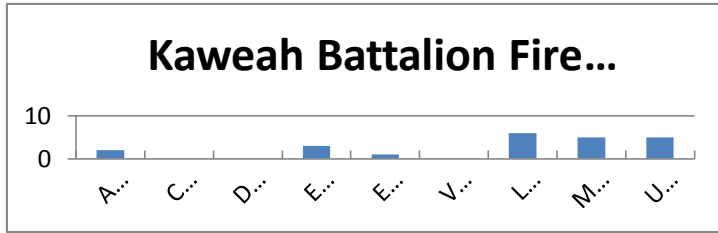
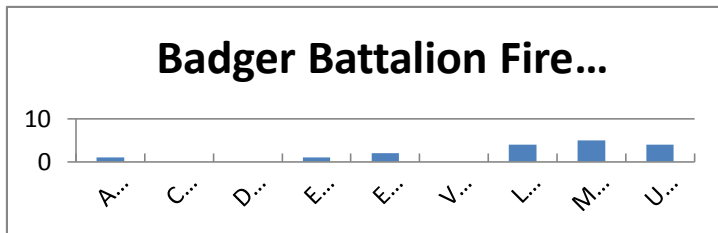


APPENDIX D: LARGEST FIRES PAST 50 YEARS



APPENDIX E: IGNITIONS





APPENDIX F: FIRE HAZARD SEVERITY ZONE

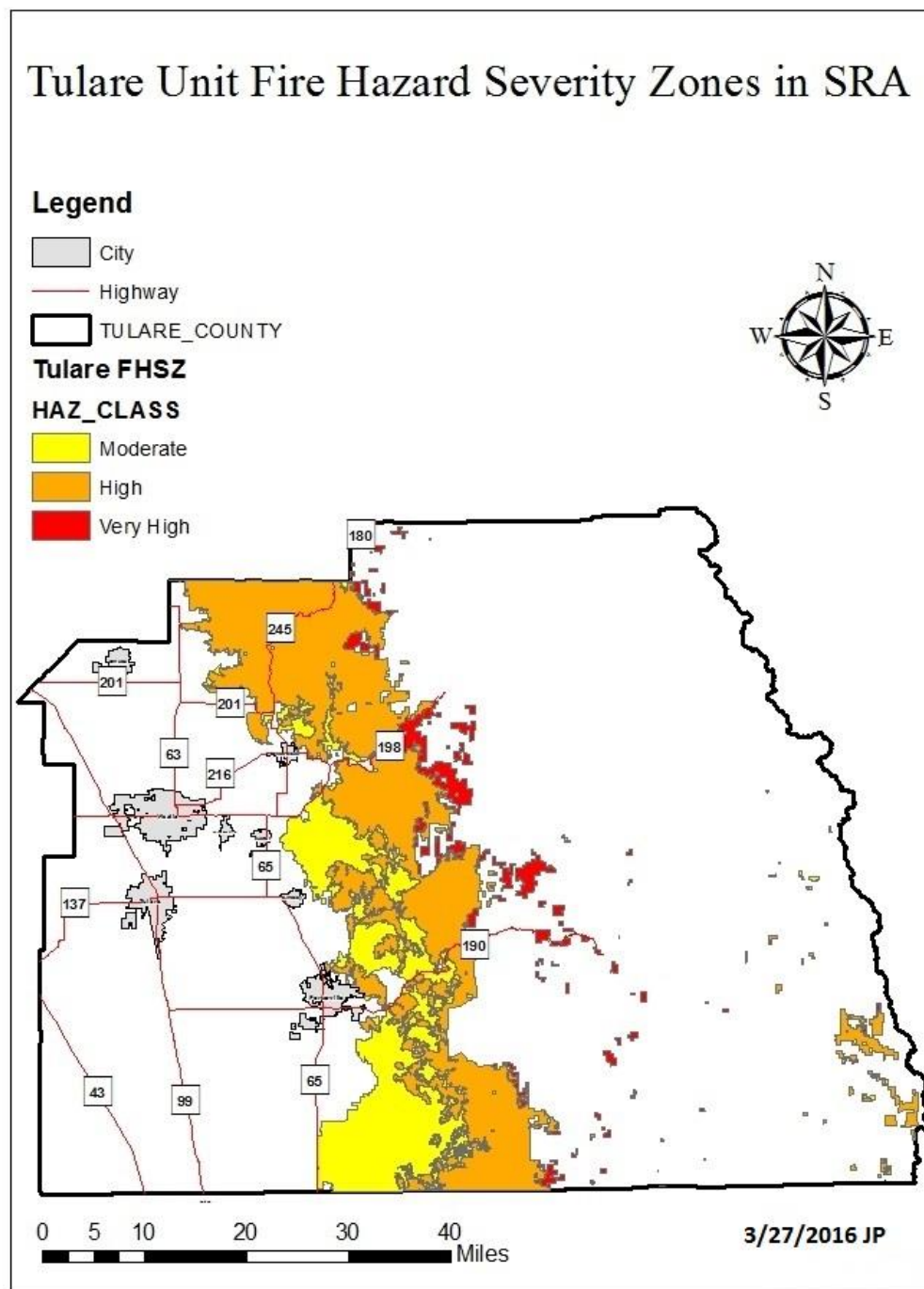
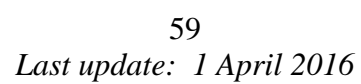


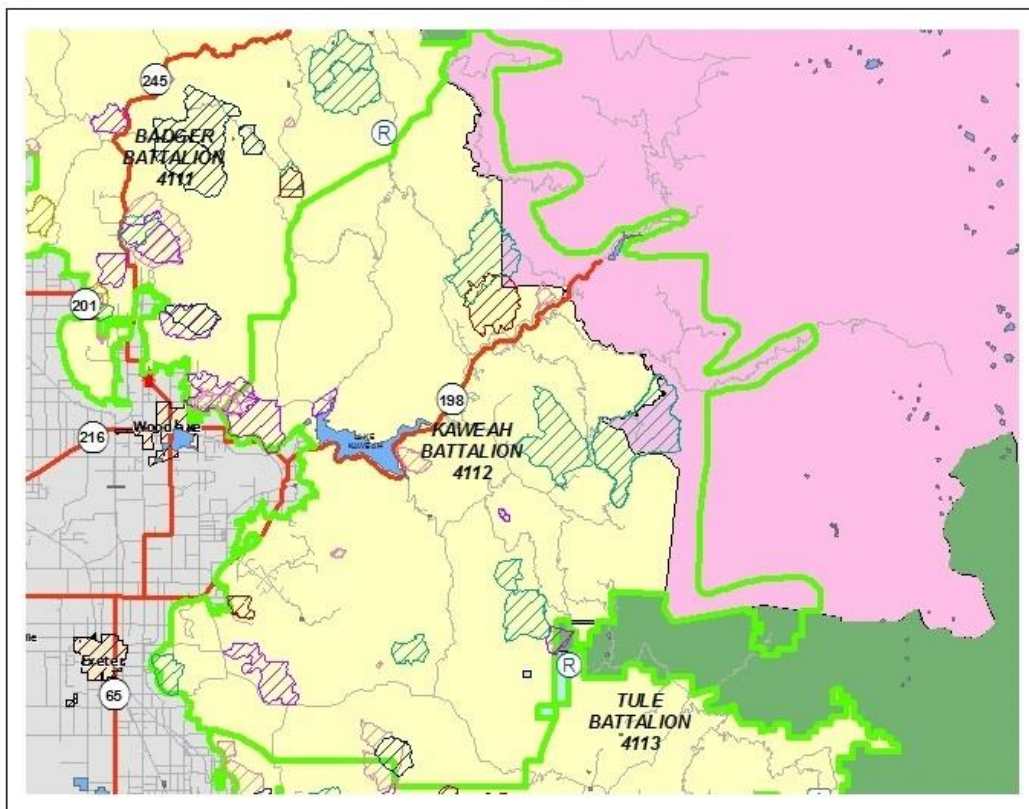
Figure A: Unit Map



Badger Battalion 4111



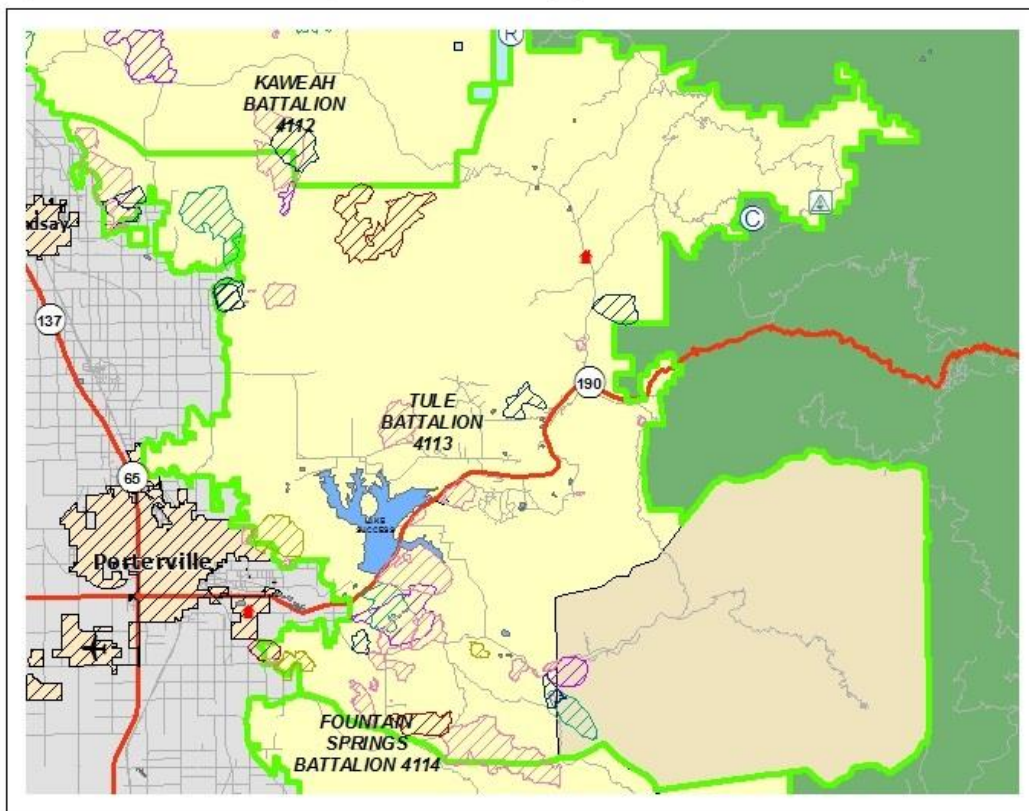
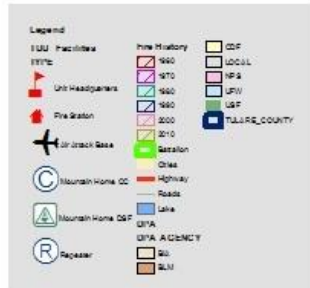
Kaweah Battalion 4112



0 1 2 4 6 8
Miles

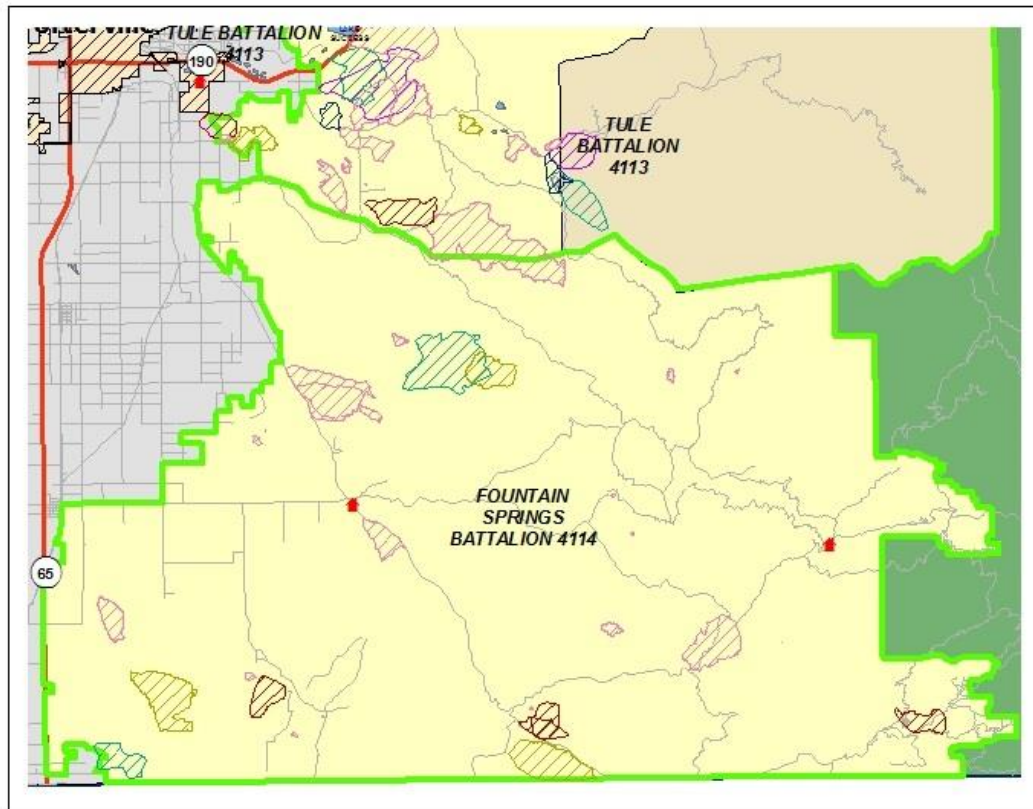
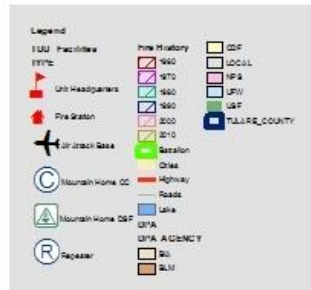
3/27/2016 JP

Tule Battalion 4113



3/28/2016 JP

Fountain Springs Battalion 4114



0 1 2 4 6 8 Miles

3/27/2016 JP

ANNUAL REPORT OF UNIT ACCOMPLISHMENTS

Wildland Fire Prevention Engineering:

Grant funding made it possible for a 11 acre, 10 day fuels reduction project at SCICON. The use of Mountain Home Fire Crews and additional manpower provided by CAL FIRE made this project possible in such a short time frame. Fire Crews also chipped Hazardous Fuels Reduction brush in the communities of Silver City, Badger, Pine Flat and Panorama Heights. The brush was accumulated from homeowners clearing flammable vegetation from their property maintaining the required 100' "Defensible Space" clearance in preparation for fire season.

Civil Cost Recovery:

CAL FIRE's Civil Cost Recovery program recovers fire suppression costs when a fire investigation reveals that the responsible party caused the fire negligently or in violation of law. This benefit's the State in two ways: it assigns fire suppression costs to culpable parties rather than the taxpayers at large and it serves as a deterrent to carelessness that can result in destructive fires. All fires meeting minimum criteria were forwarded to Southern Region Office for review and civil cost collection.

Education and Information:

This year with help from permanent staff, seasonal firefighters and volunteers in prevention we participated in 19 first grade school programs utilizing team teaching with the USFS. We continue to have our display at the Tulare County Fair. TUU personnel educated the public and allowed children to cut a log and brand Smokey Bear into the piece they cut. We also decorated multiple floats and participated in multiple holiday parades spreading our fire prevention message.

Vegetation Management:

Several hundred hazardous reduction piles were burned on the Mountain Home Demonstration State Forest for a total of approximately 100 acres being treated. The Unit utilized Mountain Home Fire Crews to continue its annual fuel break along highways 198 and 190 across from Lakes Kaweah and Success. Together approximately 9 miles of continuous handline was put in. Fire roads and signs have been improved and or maintained in all battalions. Defensible Space Fire Inspectors (utilizing funds from the Fire Prevention Fee) have been hired and Engine Companies utilized for the compliance inspections of all structures within the State Responsibility Area (SRA).



Marc Hafner
Unit Chief

5/1/16

DATE